

START

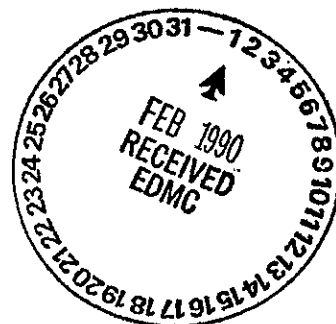
007054
DOE/RL-90-1

305-B Storage Facility Dangerous Waste Permit Application

January 1990



U. S. Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352



THIS PAGE INTENTIONALLY
LEFT BLANK

THE 305-B STORAGE FACILITY
DANGEROUS WASTE PERMIT APPLICATION

FOREWORD

The Hanford Site is operated by the U.S. Department of Energy-Richland Operations Office. The 305-B Storage Facility receives and stores dangerous and radioactive mixed waste (RMW) from various Hanford waste generating units until the waste can be transported on or off site for treatment, storage, and/or disposal. Storage of these wastes is regulated under the Resource Conservation and Recovery Act of 1976 (RCRA) for nonradioactive dangerous wastes and both RCRA and the Atomic Energy Act of 1954 (as amended) for RMW.

The single dangerous waste permit identification number issued to the Hanford Site by the U.S. Environmental Protection Agency (EPA) and the Washington State Department of Ecology (Ecology) is U.S. Environmental Protection Agency/State Identification Number WA 7890008967. This identification number encompasses a number of waste management units at the Hanford Site. Pacific Northwest Laboratory (PNL) is the Research and Development contractor to the U.S. Department of Energy-Richland Operations Office (DOE-RL) and serves as co-operator of the 305-B Storage Facility, the waste management unit addressed in this permit application.

The 305-B Storage Facility Permit Application consists of both a Part A and a Part B permit application. The Part A application for the 305-B Storage Facility was originally submitted on May 19, 1988, and no revisions have been made.

The Part B application consists of 15 chapters addressing the organization and content of the Part B Checklist prepared by Ecology (Ecology 1987). For ease of reference, the checklist section numbers, in brackets, follow chapter headings and subheadings.

This page intentionally left blank.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

DOCUMENT CONTENT

Foreword

Acronyms and Abbreviations

Part A

Part B

1.0 Introduction

2.0 Facility Description and General Provisions

3.0 Waste Characteristics

4.0 Process Information

5.0 Groundwater Monitoring

6.0 Procedures to Prevent Hazards

7.0 Contingency Plan

8.0 Personnel Training

9.0 Exposure Information Report

10.0 Waste Minimization Plan

11.0 Closure/Post-Closure Requirements

12.0 Reporting and Recordkeeping

13.0 Other Relevant Laws

14.0 Certification

15.0 References

Appendices

2A Hanford Site and 300 Area Topographic Maps

4A 305-B Design Drawings

6A Hanford Fire Department Emergency Equipment

7A Emergency Response Information and Procedures

8A 305-B Job Descriptions and Training Requirements



ACRONYMS

AA	Atomic Absorption
AED	Area Emergency Director
ALE	Arid Lands Ecology
AMSL	Above Mean Sea Level
ANSI	American National Standards Institute
ASTM	American Society for Testing Materials
BED	Building Emergency Director
CFR	Code of Federal Regulations
COE	Corps of Engineers
COLIWASA	Containerized Liquid Waste Sampler
DOE	Department of Energy
DOE-RL	Department of Energy-Richland Operations Office
DOT	Department of Transportation
DW	Dangerous Waste
EACT	Emergency Action Coordinating Team
ECC	Emergency Control Center
EHW	Extremely Hazardous Waste
EMC	Emergency Management Center
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FM	Fire Marshall
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectroscopy
HEHF	Hanford Environmental Health Foundation
HEPA	High Efficiency Particulate Air Filter
HVAC	Heating, Ventilation, and Air Conditioning
ICP	Inductively Coupled Plasma Spectroscopy
IDLH	Immediately Dangerous to Life or Health
LDR	Land Disposal Restricted
MOU	Memorandum of Understanding
MSDS	Material Safety Data Sheet
NCRP	National Council on Radiation Protection and Measurements
NFPA	National Fire Protection Association
ORM	Other Regulated Material
OSHA	Occupational Safety and Health Administration
OVA	Organic Vapor Analyzer
PCB	Polychlorinated biphenyl
PNL	Pacific Northwest Laboratory

ACRONYMS (Cont'd)

RCW	Revised Code of Washington
RCRA	Resource Conservation and Recovery Act
RMW	Radioactive Mixed Waste
RTL	Research Technology Laboratory
SCBA	Self-Contained Breathing Apparatus
TSCA	Toxic Substances Control Act
TSD	Treatment, Storage, or Disposal
UL	Underwriter's Laboratory
USGS	United States Geological Survey
UST	U.S. Testing
WAC	Washington Administrative Code
WHC	Westinghouse Hanford Company
WM&EC	Waste Management and Environmental Compliance
WPPSS	Washington Public Power Supply System

ABBREVIATIONS

°C	degrees Celsius
Ecology	Washington State Department of Ecology
°F	degrees Fahrenheit
fpm	feet per minute
ft	feet
g	gram
gal	gallon
in.	inch
kg	kilogram
L	liter
lb	pound
lbs	pounds
yr	year
305-B	305-B Storage Facility

This page intentionally left blank.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884
885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941
942
943
944
945
946
947
948
949
950
951
952
953
954
955
956
957
958
959
960
961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978
979
980
981
982
983
984
985
986
987
988
989
990
991
992
993
994
995
996
997
998
999
1000
1001
1002
1003
1004
1005
1006
1007
1008
1009
1010
1011
1012
1013
1014
1015
1016
1017
1018
1019
1020
1021
1022
1023
1024
1025
1026
1027
1028
1029
1030
1031
1032
1033
1034
1035
1036
1037
1038
1039
1040
1041
1042
1043
1044
1045
1046
1047
1048
1049
1050
1051
1052
1053
1054
1055
1056
1057
1058
1059
1060
1061
1062
1063
1064
1065
1066
1067
1068
1069
1070
1071
1072
1073
1074
1075
1076
1077
1078
1079
1080
1081
1082
1083
1084
1085
1086
1087
1088
1089
1090
1091
1092
1093
1094
1095
1096
1097
1098
1099
1100
1101
1102
1103
1104
1105
1106
1107
1108
1109
1110
1111
1112
1113
1114
1115
1116
1117
1118
1119
1120
1121
1122
1123
1124
1125
1126
1127
1128
1129
1130
1131
1132
1133
1134
1135
1136
1137
1138
1139
1140
1141
1142
1143
1144
1145
1146
1147
1148
1149
1150
1151
1152
1153
1154
1155
1156
1157
1158
1159
1160
1161
1162
1163
1164
1165
1166
1167
1168
1169
1170
1171
1172
1173
1174
1175
1176
1177
1178
1179
1180
1181
1182
1183
1184
1185
1186
1187
1188
1189
1190
1191
1192
1193
1194
1195
1196
1197
1198
1199
1200
1201
1202
1203
1204
1205
1206
1207
1208
1209
1210
1211
1212
1213
1214
1215
1216
1217
1218
1219
1220
1221
1222
1223
1224
1225
1226
1227
1228
1229
1230
1231
1232
1233
1234
1235
1236
1237
1238
1239
1240
1241
1242
1243
1244
1245
1246
1247
1248
1249
1250
1251
1252
1253
1254
1255
1256
1257
1258
1259
1260
1261
1262
1263
1264
1265
1266
1267
1268
1269
1270
1271
1272
1273
1274
1275
1276
1277
1278
1279
1280
1281
1282
1283
1284
1285
1286
1287
1288
1289
1290
1291
1292
1293
1294
1295
1296
1297
1298
1299
1300
1301
1302
1303
1304
1305
1306
1307
1308
1309
1310
1311
1312
1313
1314
1315
1316
1317
1318
1319
1320
1321
1322
1323
1324
1325
1326
1327
1328
1329
1330
1331
1332
1333
1334
1335
1336
1337
1338
1339
1340
1341
1342
1343
1344
1345
1346
1347
1348
1349
1350
1351
1352
1353
1354
1355
1356
1357
1358
1359
1360
1361
1362
1363
1364
1365
1366
1367
1368
1369
1370
1371
1372
1373
1374
1375
1376
1377
1378
1379
1380
1381
1382
1383
1384
1385
1386
1387
1388
1389
1390
1391
1392
1393
1394
1395
1396
1397
1398
1399
1400
1401
1402
1403
1404
1405
1406
1407
1408
1409
1410
1411
1412
1413
1414
1415
1416
1417
1418
1419
1420
1421
1422
1423
1424
1425
1426
1427
1428
1429
1430
1431
1432
1433
1434
1435
1436
1437
1438
1439
1440
1441
1442
1443
1444
1445
1446
1447
1448
1449
1450
1451
1452
1453
1454
1455
1456
1457
1458
1459
1460
1461
1462
1463
1464
1465
1466
1467
1468
1469
1470
1471
1472
1473
1474
1475
1476
1477
1478
1479
1480
1481
1482
1483
1484
1485
1486
1487
1488
1489
1490
1491
1492
1493
1494
1495
1496
1497
1498
1499
1500
1501
1502
1503
1504
1505
1506
1507
1508
1509
1510
1511
1512
1513
1514
1515
1516
1517
1518
1519
1520
1521
1522
1523
1524
1525
1526
1527
1528
1529
1530
1531
1532
1533
1534
1535
1536
1537
1538
1539
1540
1541
1542
1543
1544
1545
1546
1547
1548
1549
1550
1551
1552
1553
1554
1555
1556
1557
1558
1559
1560
1561
1562
1563
1564
1565
1566
1567
1568
1569
1570
1571
1572
1573
1574
1575
1576
1577
1578
1579
1580
1581
1582
1583
1584
1585
1586
1587
1588
1589
1590
1591
1592
1593
1594
1595
1596
1597
1598
1599
1600
1601
1602
1603
1604
1605
1606
1607
1608
1609
1610
1611
1612
1613
1614
1615
1616
1617
1618
1619
1620
1621
1622
1623
1624
1625
1626
1627
1628
1629
1630
1631
1632
1633
1634
1635
1636
1637
1638
1639
1640
1641
1642
1643
1644
1645
1646
1647
1648
1649
1650
1651
1652
1653
1654
1655
1656
1657
1658
1659
1660
1661
1662
1663
1664
1665
1666
1667
1668
1669
1670
1671
1672
1673
1674
1675
1676
1677
1678
1679
1680
1681
1682
1683
1684
1685
1686
1687
1688
1689
1690
1691
1692
1693
1694
1695
1696
1697
1698
1699
1700
1701
1702
1703
1704
1705
1706
1707
1708
1709
1710
1711
1712
1713
1714
1715
1716
1717
1718
1719
1720
1721
1722
1723
1724
1725
1726
1727
1728
1729
1730
1731
1732
1733
1734
1735
1736
1737
1738
1739
1740
1741
1742
1743
1744
1745
1746
1747
1748
1749
1750
1751
1752
1753
1754
1755
1756
1757
1758
1759
1760
1761
1762
1763
1764
1765
1766
1767
1768
1769
1770
1771
1772
1773
1774
1775
1776
1777
1778
1779
1780
1781
1782
1783
1784
1785
1786
1787
1788
1789
1790
1791
1792
1793
1794
1795
1796
1797
1798
1799
1800
1801
1802
1803
1804
1805
1806
1807
1808
1809
1810
1811
1812
1813
1814
1815
1816
1817
1818
1819
1820
1821
1822
1823
1824
1825
1826
1827
1828
1829
1830
1831
1832
1833
1834
1835
1836
1837
1838
1839
1840
1841
1842
1843
1844
1845
1846
1847
1848
1849
1850
1851
1852
1853
1854
1855
1856
1857
1858
1859
1860
1861
1862
1863
1864
1865
1866
1867
1868
1869
1870
1871
1872
1873
1874
1875
1876
1877
1878
1879
1880
1881
1882
1883
1884
1885
1886
1887
1888
1889
1890
1891
1892
1893
1894
1895
1896
1897
1898
1899
1900
1901
1902
1903
1904
1905
1906
1907
1908
1909
1910
1911
1912
1913
1914
1915
1916
1917
1918
1919
1920
1921
1922
1923
1924
1925
1926
1927
1928
1929
1930
1931
1932
1933
1934
1935
1936
1937
1938
1939
1940
1941
1942
1943
1944
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
2036
2037
2038
2039
2040
2041
2042
2043
2044
2045
2046
2047
2048
2049
2050
2051
2052
2053
2054
2055
2056
2057
2058
2059
2060
2061
2062
2063
2064
2065
2066
2067
2068
2069
2070
2071
2072
2073
2074
2075
2076
2077
2078
2079
2080
2081
2082
2083
2084
2085
2086
2087
2088
2089
2090
2091
2092
2093
2094
2095
2096
2097
2098
2099
2100
2101
2102
2103
2104
2105
2106
2107
2108
2109
2110
2111
2112
2113
2114
2115
2116
2117
2118
2119
2120
2121
2122
2123
2124
2125
2126
2127
2128
2129
2130
2131
2132
2133
2134
2135
2136
2137
2138
2139
2140
2141
2142
2143
2144
2145
2146
2147
2148
2149
2150
2151
2152
2153
2154
2155
2156
2157
2158
2159
2160
2161
2162
2163
2164
2165
2166
2167
2168
2169
2170
2171
2172
2173
2174
2175
2176
2177
2178
2179
2180
2181
2182
2183
2184
2185
2186
2187
2188
2189
2190
2191
2192
2193
2194
2195
2196
2197
2198
2199
2200
2201
2202
2203
2204
2205
2206
2207
2208
2209
2210
2211
2212
2213
2214
2215
2216
2217
2218
2219
2220
2221
2222
2223
2224
2225
2226
2227
2228
222

PART A

The Part A permit application Form 3, included in this permit application was submitted to the Washington State Department of Ecology in May, 1988. This Part A application is comprised of three pages of Form 1, 15 pages of Form 3, two photographs, and one figure.

This page intentionally left blank.

3
2
1
0
1
2
1
0
1
0
3

FORM

1

State of
Washington
Department
of Ecology

WASHINGTON STATE

DANGEROUS WASTE PERMIT GENERAL INFORMATION

(Read "Form 1 Instructions" before starting)

L. EPA/STATE LD. NUMBER

WA 7890008967

III. NAME OF FACILITY			
U.S. DEPARTMENT OF ENERGY - HANFORD SITE			
III. FACILITY CONTACT			
A. NAME & TITLE (Last, first, & initials)		B. PHONE (area code & no.)	
LAWRENCE, MICHAEL J., MANAGER		509 376 7395	
IV. FACILITY MAILING ADDRESS			
A. STREET OR P.O. BOX			
P.O. BOX 550			
B. CITY OR TOWN	C. STATE	D. ZIP CODE	
RICHLAND	WA	99352	
V. FACILITY LOCATION			
A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER			
HANFORD SITE			
B. COUNTY NAME			
BENTON			
C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
RICHLAND	WA	99352	005
IV. SIC CODES (4-digit, in order of priority)			
A. FIRST		B. SECOND	
9711 (Specialty) NATIONAL SECURITY		8922 (Specialty) NUCLEAR NONCOMMERCIAL DEVELOPMENT AND EDUCATION	
C. THIRD		D. FOURTH	
9611 (Specialty) ADMINISTRATION AND GENERAL ECONOMICS PROGRAM		4911 (Specialty) STEAM-ELECTRIC GENERATION	
VII. OPERATOR INFORMATION			
A. NAME		B. Is the name listed in Item 1/2-A also the owner?	
(DOE-RL) DEPARTMENT OF ENERGY - RICHLAND OPERATIONS PACIFIC NORTHWEST LABORATORY		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO **	
C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)		D. PHONE (area code & no.)	
F = FEDERAL S = STATE P = PRIVATE M = PUBLIC (other than federal or state) O = OTHER (specify) F (Specialty)		509 376 7395	
E. STREET OR P.O. BOX		509 375 2201	
P.O. BOX 550/P.O. BOX 999			
F. CITY OR TOWN	G. STATE	H. ZIP CODE	VIII. INDIAN LAND
RICHLAND	WA	99352	Is the facility located on Indian lands? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

**DOE-RL: Owner/Co-Operator; PNL: Co-Operator for certain units on the Hanford Site.

COMPLETE BACK PAGE

IX. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

X. NATURE OF BUSINESS (provide a brief description)

- o NATIONAL DEFENSE NUCLEAR MATERIAL PRODUCTION
- o ENERGY RESEARCH AND TECHNOLOGY DEVELOPMENT
- o DEFENSE NUCLEAR WASTE MANAGEMENT
- o BYPRODUCT STEAM, SOLD FOR ELECTRIC POWER GENERATION
- o AND SIC 15: BUILDING - GENERAL CONTRACTORS AND OPERATIVE BUILDERS

XI. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A NAME & OFFICIAL TITLE (Type or print)

B. SIGNATURE

C DATE SIGNED

SEE ATTACHMENT

Form 1

DANGEROUS WASTE PERMIT GENERAL INFORMATION

XI. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Michael J. Lawrence
 Michael J. Lawrence, Manager
 Department of Energy
 Richland Operations Office

5-19-88
 Date

William R. Wiley
 William R. Wiley, Director
 Pacific Northwest Laboratory

5/19/88
 Date

20170142

Use only the 10 type 10 and 12 characters in this space.
If a space is needed for extra type, i.e., 12 characters, use 12.

FORM

DANGEROUS WASTE PERMIT APPLICATION

1. EPA/STATE I.D. NUMBER

WA 78 90008967

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (mo., day, & yr.)

COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA/STATE I.D. Number, or if this is a revised application, enter your facility's EPA/STATE I.D. Number in Section I above.

A. FIRST APPLICATION (Place an "X" below and provide the appropriate date)

☐ 1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.)☐ 2. NEW FACILITY (Complete item below.)

MO.	DAY	YR.
01		78

FOR EXISTING FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the latter to the left)

MO.	DAY	YR.

FOR NEW FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR IS EXPECTED TO BEGIN

B. REVISED APPLICATION (Place an "X" below and complete Section I above)

☒ 1. FACILITY HAS AN INTERIM STATUS PERMIT☐ 2. FACILITY HAS A FINAL PERMIT

III. PROCESSES — CODES AND DESIGN CAPACITIES

A. PROCESS CODE — Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the (Section III-C).

B. PROCESS DESIGN CAPACITY — For each code entered in column A enter the capacity of the process.

1. AMOUNT — Enter the amount.

2. UNIT OF MEASURE — For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PRO- CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	PROCESS	PRO- CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage			Treatment		
CONTAINER (barrel, drum, etc.)	901	GALLONS OR LITERS	TANK	T01	GALLONS PER DAY OR LITERS PER DAY
WASTE PILE	902	GALLONS OR LITERS	SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
	903	CUBIC YARDS OR CUBIC METERS	INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
SURFACE IMPOUNDMENT	904	GALLONS OR LITERS			
Disposal			OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided: Section III-C.)	T04	GALLONS PER DAY OR LITERS PER DAY
INJECTION WELL	D60	GALLONS OR LITERS			
LANDFILL	D61	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER			
LAND APPLICATION	D62	ACRES OR HECTARES			
OCEAN DISPOSAL	D63	GALLONS PER DAY OR LITERS PER DAY			
SURFACE IMPOUNDMENT	D64	GALLONS OR LITERS			
UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	B	LITERS PER DAY	Y	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	P
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	S
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	G
GALLONS PER DAY	U	LITERS PER HOUR	N		

EXAMPLE FOR COMPLETING SECTION III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

LINE NUMBER	A. PRO- CESS CODE (From list above)	B. PROCESS DESIGN CAPACITY		FOR OFFICIAL USE ONLY	LINE NUMBER	A. PRO- CESS CODE (From list above)	B. PROCESS DESIGN CAPACITY		FOR OFFICIAL USE ONLY
		1. AMOUNT (capacity)	2. UNIT OF MEAS- URE (enter code)				1. AMOUNT (capacity)	2. UNIT OF MEAS- URE (enter code)	
X-1	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	S 0 1	30,000	G		7				
					8				
3					9				
4					10				

Continued from the front.

WL PROCESSES (continued)

SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESS (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

S01

The 305-B Storage Facility is a waste assembly area that services Research and Development operations as a 300 Area satellite storage area. Waste are brought into the facility for storage, repackaging, and/or waste consolidation into mostly 55 gallon drums. The storage design capacity is 30,000 gallons.

RMW is stored as received in storage cells in the basement of the facility. Other wastes are stored in segregated cells in the high bay area.

IV. DESCRIPTION OF DANGEROUS WASTES

A. DANGEROUS WASTE NUMBER — Enter the four digit number from Chapter 173-303 WAC for each listed dangerous waste you will handle. If you handle dangerous wastes which are not listed in Chapter 173-303 WAC, enter the four digit number(s) that describes the characteristics and/or the toxic contaminants of those dangerous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES**1. PROCESS CODES:**

For listed dangerous waste: For each listed dangerous waste entered in column A select the code(s) from the list of process codes contained in Section III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed dangerous waste: For each characteristic or toxic contaminant entered in Column A, select the code(s) from the list of process codes contained in Section III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed dangerous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: DANGEROUS WASTES DESCRIBED BY MORE THAN ONE DANGEROUS WASTE NUMBER — Dangerous wastes that can be described by more than one Waste Number shall be described on the form as follows:

- Select one of the Dangerous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
- In column A of the next line enter the other Dangerous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
- Repeat step 2 for each other Dangerous Waste Number that can be used to describe the dangerous waste.

EXAMPLE FOR COMPLETING SECTION IV (shown in line numbers X-1, X-2, X-3, and X-4 below) — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2			T 0 3 D 8 0	included with above

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 20 wastes to list.

ID. NUMBER (enter from page 1)

W A 7 8 9 0 0 8 9 6 7

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

L I N E	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEAS- URE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D 0 0 1	10,000	K	S 0 1	Storage
2	D 0 0 2	5,000			
3	D 0 0 3	500			
4	D 0 0 4	200			
5	D 0 0 5	200			
6	D 0 0 6	200			
7	D 0 0 7	10,000			
8	D 0 0 8	50,000			
9	D 0 0 9	400			
10	D 0 1 0	50			
11	D 0 1 1	200			
12	W T 0 1	20,000			
13	W T 0 2	10,000			
14	W P 0 1	5,000			
15	W P 0 2	1,000			
16	W C 0 1	1,000			
17	W C 0 2	1,000			
18	F 0 0 1	2,000			
19	F 0 0 2	2,000			
20	F 0 0 3	3,000			
21	F 0 0 4	1,000			
22	F 0 0 5	2,000			
23	F 0 2 7	200			
24	W 0 0 1	5,000			
25	U 0 0 1	200			
26	U 0 0 2	200			

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

IV. DESCRIPTION OF DANGEROUS WASTES (continued)											
LINE NO.	A. DANGEROUS WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES				
							1. PROCESS CODES (enter)				2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U	0	0	3	200	K	S	0	1		Storage
2	U	0	0	4	200						
3	U	0	0	5	200						
4	U	0	0	6	200						
5	U	0	0	7	200						
6	U	0	0	8	200						
7	U	0	0	9	200						
8	U	0	1	0	200						
9	U	0	1	1	200						
10	U	0	1	2	200						
11	U	0	1	3	200						
12	U	0	1	4	200						
13	U	0	1	5	200						
14	U	0	1	6	200						
15	U	0	1	7	200						
16	U	0	1	8	200						
17	U	0	1	9	200						
18	U	0	2	0	200						
19	U	0	2	1	200						
20	U	0	2	2	200						
21	U	0	2	3	200						
22	U	0	2	4	200						
23	U	0	2	5	200						
24	U	0	2	6	200						
25	U	0	2	7	200						
26	U	0	2	8	200						

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 20 wastes to list.

I.D. NUMBER (enter from page 1)									
W A 7 8 9 0 0 8 9 6 7									
IV. DESCRIPTION OF DANGEROUS WASTES (continued)									
LINE NO.	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	1. PROCESS CODES (enter)				2. PROCESS DESCRIPTION (if a code is not entered in D(1))	
1	U 0 2 9	200	K	S	0	1			Storage
2	U 0 3 0	200							
3	U 0 3 1	200							
4	U 0 3 2	200							
5	U 0 3 3	200							
6	U 0 3 4	200							
7	U 0 3 5	200							
8	U 0 3 6	200							
9	U 0 3 7	200							
10	U 0 3 8	200							
11	U 0 3 9	200							
12	U 0 4 0	200							
13	U 0 4 1	200							
14	U 0 4 2	200							
15	U 0 4 3	200							
16	U 0 4 4	200							
17	U 0 4 5	200							
18	U 0 4 6	200							
19	U 0 4 7	200							
20	U 0 4 8	200							
21	U 0 4 9	200							
22	U 0 5 0	200							
23	U 0 5 1	200							
24	U 0 5 2	200							
25	U 0 5 3	200							
26	U 0 5 4	200							

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

D. NUMBER (enter from page 1)

W A 7 8 9 0 0 8 9 6 7

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U 0 5 5	200	K	S 0 1	Storage
2	U 0 5 6	200			
3	U 0 5 7	200			
4	U 0 5 8	200			
5	U 0 5 9	200			
6	U 0 6 0	200			
7	U 0 6 1	200			
8	U 0 6 2	200			
9	U 0 6 3	200			
10	U 0 6 4	200	↓	↓	↓
11	U 0 6 5	200			
12	U 0 6 6	200			
13	U 0 6 7	200			
14	U 0 6 8	200			
15	U 0 6 9	200			
16	U 0 7 0	200			
17	U 0 7 1	200	↓	↓	↓
18	U 0 7 2	200			
19	U 0 7 3	200			
20	U 0 7 4	200			
21	U 0 7 5	200			
22	U 0 7 6	200			
23	U 0 7 7	200			
24	U 0 7 8	200			
25	U 0 7 9	200			
26	U 0 8 0	200	↓	↓	↓

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

ID. NUMBER (enter from page 1)

A 7 8 9 0 0 8 9 6 7

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

L I N E N O	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEAS- URE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (If a code letter entered in D(1))
1	U 0 8 1	200	K	S 0 1	Storage
2	U 0 8 2	200			
3	U 0 8 3	200			
4	U 0 8 4	200			
5	U 0 8 5	200			
6	U 0 8 6	200			
7	U 0 8 7	200			
8	U 0 8 8	200			
9	U 0 8 9	200			
10	U 0 9 0	200			
11	U 0 9 1	200			
12	U 0 9 2	200			
13	U 0 9 3	200			
14	U 0 9 4	200			
15	U 0 9 5	200			
16	U 0 9 6	200			
17	U 0 9 7	200			
18	U 0 9 8	200			
19	U 0 9 9	200			
20	U 1 0 0	200			
21	U 1 0 1	200			
22	U 1 0 2	200			
23	U 1 0 3	200			
24	U 1 0 4	200			
25	U 1 0 5	200			
26	U 1 0 6	200			

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 20 wastes to list.

IV. DESCRIPTION OF DANGEROUS WASTES (continued)										
L I N E N O .	A. DANGEROUS WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES			
							1. PROCESS CODES (enter)			
1	U	1	0	7	200	K	S	0	1	Storage
2	U	1	0	8	200					
3	U	1	0	9	200					
4	U	1	1	0	200					
5	U	1	1	1	200					
6	U	1	1	2	200					
7	U	1	1	3	200					
8	U	1	1	4	200					
9	U	1	1	5	200					
10	U	1	1	6	200					
11	U	1	1	7	200					
12	U	1	1	8	200					
13	U	1	1	9	200					
14	U	1	2	0	200					
15	U	1	2	1	200					
16	U	1	2	2	200					
17	U	1	2	3	200					
18	U	1	2	4	200					
19	U	1	2	5	200					
20	U	1	2	6	200					
21	U	1	2	7	200					
22	U	1	2	8	200					
23	U	1	2	9	200					
24	U	1	3	0	200					
25	U	1	3	1	200					
26	U	1	3	2	200					

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

LD. NUMBER (enter from page 1)

A 7 8 9 0 0 0 8 9 6 7

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

L I N E	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEAS- URE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in C(1))
1	U 1 3 3	200	K	S 0 1	Storage
2	U 1 3 4	200			
3	U 1 3 5	200			
4	U 1 3 6	200			
5	U 1 3 7	200			
6	U 1 3 8	200			
7	U 1 3 9	200			
8	U 1 4 0	200			
9	U 1 4 1	200			
10	U 1 4 2	200			
11	U 1 4 3	200			
12	U 1 4 4	200			
13	U 1 4 5	200			
14	U 1 4 6	200			
15	U 1 4 7	200			
16	U 1 4 8	200			
17	U 1 4 9	200			
18	U 1 5 0	200			
19	U 1 5 1	200			
20	U 1 5 2	200			
21	U 1 5 3	200			
22	U 1 5 4	200			
23	U 1 5 5	200			
24	U 1 5 6	200			
25	U 1 5 7	200			
26	U 1 5 8	200			

Continued from page 2.

Photocopy this page before completing if you have more than 26 wastes to list.

 LD. NUMBER (enter from page 1)
 WA 7 8 9 0 0 0 8 9 6 7

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U 1 5 9	200	K	S 0 1	Storage
2	U 1 6 0	200			
3	U 1 6 1	200			
4	U 1 6 2	200			
5	U 1 6 3	200			
6	U 1 6 4	200			
7	U 1 6 5	200			
8	U 1 6 6	200			
9	U 1 6 7	200			
10	U 1 6 8	200			
11	U 1 6 9	200			
12	U 1 7 0	200			
13	U 1 7 1	200			
14	U 1 7 2	200			
15	U 1 7 3	200			
16	U 1 7 4	200			
17	U 1 7 5	200			
18	U 1 7 6	200			
19	U 1 7 7	200			
20	U 1 7 8	200			
21	U 1 7 9	200			
22	U 1 8 0	200			
23	U 1 8 1	200			
24	U 1 8 2	200			
25	U 1 8 3	200			
26	U 1 8 4	200			

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 20 wastes to list.

ID. NUMBER (enter from page 1)

W A 7 8 9 0 0 0 8 9 6 7

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U 1 8 5	200	K	S 0 1	Storage
2	U 1 8 6	200			
3	U 1 8 7	200			
4	U 1 8 8	200			
5	U 1 8 9	200			
6	U 1 9 0	200			
7	U 1 9 1	200			
8	U 1 9 2	200			
9	U 1 9 3	200			
10	U 1 9 4	200			
11	U 1 9 5	200			
12	U 1 9 6	200			
13	U 1 9 7	200			
14	U 1 9 8	200			
15	U 1 9 9	200			
16	U 2 0 0	200			
17	U 2 0 1	200			
18	U 2 0 2	200			
19	U 2 0 3	200			
20	U 2 0 4	200			
21	U 2 0 5	200			
22	U 2 0 6	200			
23	U 2 0 7	200			
24	U 2 0 8	200			
25	U 2 0 9	200			
26	U 2 1 0	200			

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 20 wastes to list.

IV. DESCRIPTION OF DANGEROUS WASTES (continued)										
LINE NO.	A. DANGEROUS WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES			
	1	2	3	4			1. PROCESS CODES (enter)			
	ID. NUMBER (enter from page 1) A 7 8 9 0 0 8 9 6 7									
1	U	2	1	1	200	K	S	0	1	Storage
2	U	2	1	2	200					
3	U	2	1	3	200					
4	U	2	1	4	200					
5	U	2	1	5	200					
6	U	2	1	6	200					
7	U	2	1	7	200					
8	U	2	1	8	200					
9	U	2	1	9	200					
10	U	2	2	0	200					
11	U	2	2	1	200					
12	U	2	2	2	200					
13	U	2	2	3	200					
14	U	2	2	4	200					
15	U	2	2	5	200					
16	U	2	2	6	200					
17	U	2	2	7	200					
18	U	2	2	8	200					
19	U	2	2	9	200					
20	U	2	3	0	200					
21	U	2	3	1	200					
22	U	2	3	2	200					
23	U	2	3	3	200					
24	U	2	3	4	200					
25	U	2	3	5	200					
26	U	2	3	6	200					

Continued from page 2.

305-B Storage Facility

5/19/88

Rev. 0

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

LD. NUMBER (enter from page 1)

A 7 8 9 0 0 0 8 9 6 7

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U 2 3 7	200	K	S 0 1	Storage
2	U 2 3 8	200			
3	U 2 3 9	200			
4	U 2 4 0	200			
5	U 2 4 1	200			
6	U 2 4 2	200			
7	U 2 4 3	200			
8	U 2 4 4	200			
9	U 2 4 5	200			
10	U 2 4 6	200			
11	U 2 4 7	200			
12	P 0 0 1	200			
13	through P 1 2 3				
14	W P 0 3	500			
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

Continued from the front.

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM SECTION D(1) ON PAGE 3.

The wastes to be stored at the 305-B Storage Facility consist of listed wastes, wastes from nonspecific sources, characteristic wastes, and state-only (special) wastes.

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

VI. PHOTOGRAPHS *This information appears on the attached drawing and photographs.

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and areas of future storage, treatment or disposal areas (see instructions for more detail).

FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)

LONGITUDE (degrees, minutes, & seconds)

VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER

2. PHONE NO. (area code & no.)

3. STREET OR P.O. BOX

4. CITY OR TOWN

5. ST.

6. ZIP CODE

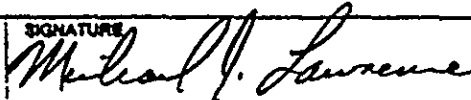
IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME (print or type)

Michael J. Lawrence, Manager
U.S. DOE, Richland Operations

SIGNATURE



DATE SIGNED

5-19-88

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME (print or type)

SIGNATURE

DATE SIGNED

SEE ATTACHMENT

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Michael J. Lawrence
Michael J. Lawrence, Manager
Department of Energy
Richland Operations Office

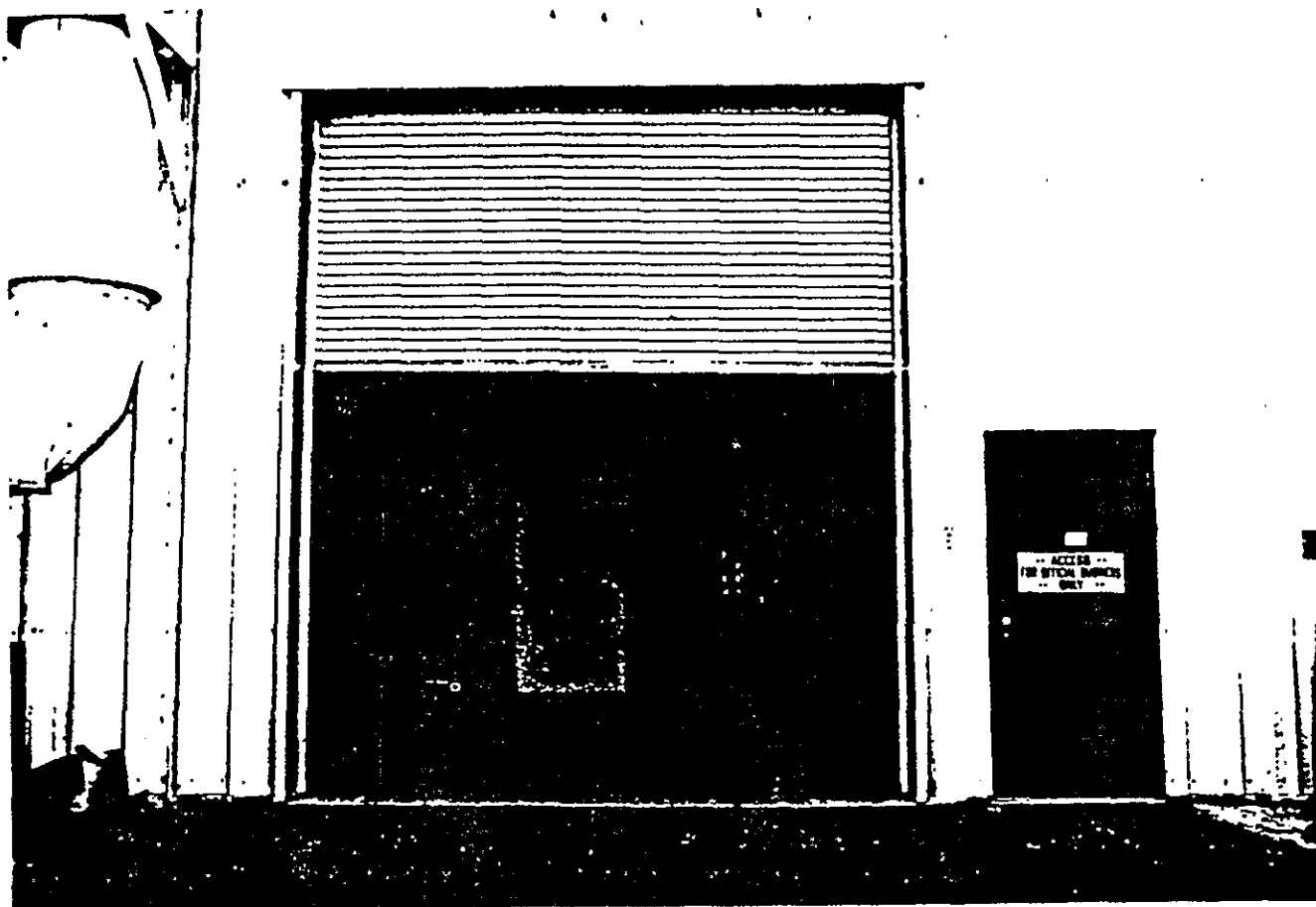
5-19-88
Date

William R. Wiley
William R. Wiley, Director
Pacific Northwest Laboratory

5/19/88
Date

305-B Storage Facility

90117010150



View Looking South

Longitude 118°16'42"

Latitude 48°22'18"

88A907-1CN

Photo Taken 1968

BEST AVAILABLE COPY

305-B Storage Facility



View Looking West

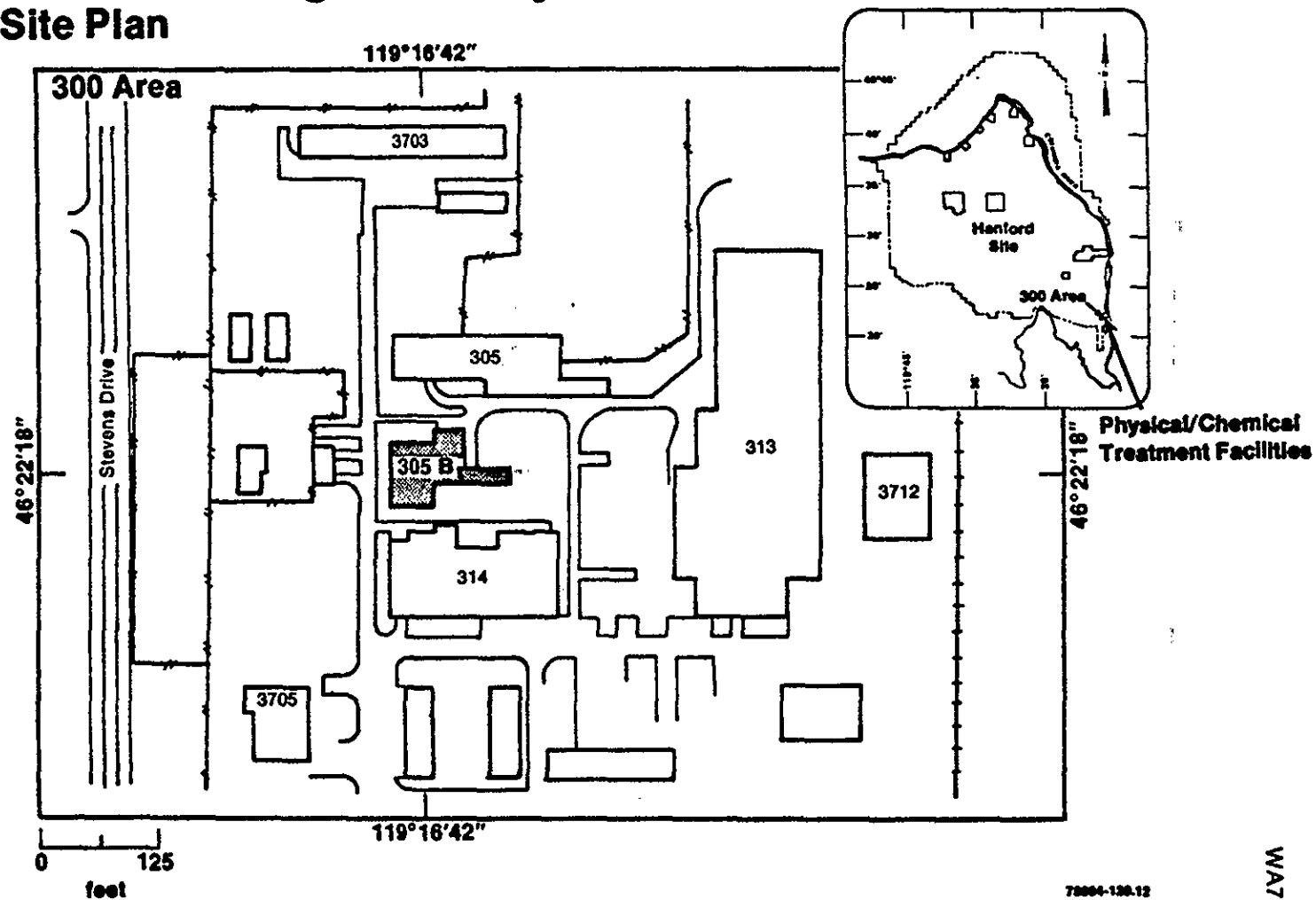
Longitude 119° 16' 42"

Latitude 46° 22' 18"

88A907-9CH
Photo Taken 1968

9 0 1 1 7 3 1 0 1 6 0

305-B Storage Facility Site Plan



**THIS PAGE INTENTIONALLY
LEFT BLANK**

PART B

3
4 This Part B permit application for the 305-B Storage Facility is comprised of 15
5 chapters and five appendices.

9 0 1 1 7 3 1 0 1 6 1

This page intentionally left blank.

20010310160

CONTENTS

1.0 INTRODUCTION	1-1
1.1 THE 305-B STORAGE FACILITY PERMITTING	1-1
1.2 THE 305-B STORAGE FACILITY PART B PERMIT APPLICATION CONTENTS .	1-1
1.2.1 Facility Description and General Provisions (Chapter 2.0)	1-1
1.2.2 Waste Characteristics (Chapter 3.0)	1-2
1.2.3 Process Information (Chapter 4.0)	1-2
1.2.4 Groundwater Monitoring (Chapter 5.0)	1-2
1.2.5 Procedures to Prevent Hazards (Chapter 6.0)	1-2
1.2.6 Contingency Plan (Chapter 7.0)	1-2
1.2.7 Personnel Training (Chapter 8.0)	1-2
1.2.8 Exposure Information Report (Chapter 9.0)	1-2
1.2.9 Waste Minimization Plan (Chapter 10.0)	1-2
1.2.10 Closure/Post-Closure Requirements (Chapter 11.0) . . .	1-2
1.2.11 Reporting and Recordkeeping (Chapter 12.0)	1-3
1.2.12 Other Relevant Laws (Chapter 13.0)	1-3
1.2.13 Certification (Chapter 14.0)	1-3
1.2.14 References (Chapter 15.0)	1-3
1.3 ACRONYMS AND ABBREVIATIONS	1-3

This page intentionally left blank.

1.0 INTRODUCTION

This chapter briefly describes the permitting approach for the 305-B Storage Facility (305-B) and provides an overview of the contents of the 305-B Part B Permit Application.

1.1 THE 305-B STORAGE FACILITY PERMITTING

The 305-B Storage Facility began operating under interim status in March 1989. This facility, classified as container storage, will be permitted under Washington State Department of Ecology (Ecology) Dangerous Waste Regulations, Washington Administrative Code (WAC) 173-303-630 (Ecology 1989).

The 305-B Facility is used to receive, store, and prepare shipments of dangerous waste and radioactive mixed waste (RMW) generated by Hanford Site programs. These wastes are primarily generated in support of research and development activities. Wastes are characterized by the generators in order to designate the wastes under the Dangerous Waste Regulations, and are transported to 305-B by truck or light utility vehicle. Upon receipt at 305-B, facility personnel place wastes into proper storage areas depending on waste type and quantity. When a sufficient quantity of waste has been accumulated to allow for off-site treatment or disposal, wastes are manifested and inspected for shipment. They are then offered for transport to a permitted off-site treatment/disposal facility.

1.2 THE 305-B STORAGE FACILITY PART B PERMIT APPLICATION CONTENTS

The 305-B Part B Permit Application consists of 15 chapters:

- Introduction (Chapter 1.0)
- Facility Description and General Provisions (Chapter 2.0)
- Waste Characteristics (Chapter 3.0)
- Process Information (Chapter 4.0)
- Groundwater Monitoring (Chapter 5.0)
- Procedures to Prevent Hazards (Chapter 6.0)
- Contingency Plan (Chapter 7.0)
- Personnel Training (Chapter 8.0)
- Exposure Information Report (Chapter 9.0)
- Waste Minimization Plan (Chapter 10.0)
- Closure/Post-Closure Requirements (Chapter 11.0)
- Reporting and Recordkeeping (Chapter 12.0)
- Other Relevant Laws (Chapter 13.0)
- Certification (Chapter 14.0)
- References (Chapter 15.0).

A brief description of each chapter is provided in the following sections.

1.2.1 Facility Description and General Provisions (Chapter 2.0)

This chapter provides a general description of 305-B. A brief description and history of the Hanford Site also is provided.

1 **1.2.2 Waste Characteristics (Chapter 3.0)**
2

3 This chapter discusses waste types received at 305-B from various Hanford Site
4 generators. A waste analysis plan is included which provides the methodology for
5 determining waste types.
6

7 **1.2.3 Process Information (Chapter 4.0)**
8

9 This chapter covers the detailed operation of the facility. Additional
10 information is given concerning container descriptions and primary and secondary
11 containment systems.
12

13 **1.2.4 Groundwater Monitoring (Chapter 5.0)**
14

15 This chapter explains that 305-B is not operated as a dangerous waste surface
16 impoundment, waste pile, land treatment unit, or landfill. Therefore,
17 groundwater monitoring is not required.
18

19 **1.2.5 Procedures to Prevent Hazards (Chapter 6.0)**
20

21 This chapter discusses hazard prevention and emergency preparedness equipment,
22 structures, and procedures.
23

24 **1.2.6 Contingency Plan (Chapter 7.0)**
25

26 This chapter provides information on contingency planning that 305-B has in place
27 that will lessen the potential impact on the public health and the environment in
28 the event of a facility emergency.
29

30 **1.2.7 Personnel Training (Chapter 8.0)**
31

32 This chapter outlines the training program used for 305-B employees whose primary
33 duties are identified as being associated with dangerous waste and RMW
34 management.
35

36 **1.2.8 Exposure Information Report (Chapter 9.0)**
37

38 This chapter explains that 305-B will not store, treat, or dispose of dangerous
39 waste in a surface impoundment or a landfill. Therefore, exposure information is
40 not required.
41

42 **1.2.9 Waste Minimization Plan (Chapter 10.0)**
43

44 This chapter discusses the program to minimize the volume or quantity and
45 toxicity of waste generated at 305-B. The regulatory basis for, and objectives
46 of, the waste minimization program are discussed. Waste generators are described
47 and specific procedures for minimizing waste are discussed.
48

49 **1.2.10 Closure/Post-Closure Requirements (Chapter 11.0)**
50

51 This chapter describes how the facility will be decontaminated and closed. A
52 closure schedule is provided. The facility is to be clean closed; therefore, no
53 post-closure plan is included.
54

1.2.11 Reporting and Recordkeeping (Chapter 12.0)

This chapter summarizes commitments for reporting and recordkeeping made in other Part B permit application chapters.

1.2.12 Other Relevant Laws (Chapter 13.0)

This chapter discusses federal and state laws that govern the operation of 305-B, other than the Resource Conservation and Recovery Act (RCRA) of 1976, as amended, and the State of Washington Hazardous Waste Management Act of 1976, as amended.

1.2.13 Certification (Chapter 14.0)

This chapter contains the required certification signed by officials of Pacific Northwest Laboratory (PNL) and the Department of Energy-Richland Operations Office (DOE-RL) indicating that the information provided is true, accurate, and complete.

1.2.14 References (Chapter 15.0)

References used throughout this Part B permit application are listed in this chapter.

1.3 ACRONYMS AND ABBREVIATIONS

Acronyms and abbreviations used throughout this Part B permit application are located at the beginning of the document between the Foreword and the Part A permit application.

1
2
3
4
5
6

This page intentionally left blank.

U
N
I
T
E
D
S
T
A
T
E
S
O
F
A
M
E
R
I
C
A

CONTENTS

2.0	FACILITY DESCRIPTION AND GENERAL PROVISIONS [B]	2-1
2.1	GENERAL DESCRIPTION [B-1]	2-1
2.1.1	The Hanford Site	2-1
2.1.2	The 305-B Storage Facility	2-3
2.2	TOPOGRAPHIC MAP [B-2]	2-3
2.2.1	General Requirements [B-2a]	2-3
2.2.2	Additional Requirements for Land Disposal Facilities [B-2b]	2-6
2.3	LOCATION INFORMATION [B-3]	2-6
2.3.1	Seismic Consideration [B-3a]	2-6
2.3.2	Floodplain Standard [B-3b]	2-6
2.3.2.1	Demonstration of Compliance [B-3b(1)]	2-8
2.3.2.2	Plan for Future Compliance With Floodplain Standard [B-3b(2)]	2-8
2.3.3	Shoreline Standard [B-3c]	2-8
2.3.4	Sole Source Aquifer Criteria [B-3d]	2-10
2.4	TRAFFIC INFORMATION [B-4]	2-10
2.5	PERFORMANCE STANDARD [B-5]	2-10
2.5.1	Measures to Prevent Degradation of Groundwater Quality	2-12
2.5.2	Measures to Prevent Degradation of Air Quality by Open Burning or Other Activities	2-12
2.5.3	Measures to Prevent Degradation of Surface Water Quality	2-12
2.5.4	Measures to Prevent Destruction of Impairment of Flora or Fauna Outside of the Facility	2-12
2.5.5	Measures to Prevent Excessive Noise	2-13
2.5.6	Measures to Prevent Negative Aesthetic Impacts	2-13
2.5.7	Measures to Prevent Unstable Hillsides or Soils	2-13
2.5.8	Measures to Prevent the Use of Processes That Do Not Treat, Detoxify, Recycle, Reclaim, and Recover Waste Material to the Extent Economically Feasible	2-13
2.5.9	Measures to Prevent Endangerment to the Health of Employees or the Public Near the Facility	2-13
2.6	BUFFER MONITORING ZONES [B-6]	2-14
2.6.1	Ignitable or Reactive Waste Buffer Zone [B-6a]	2-14
2.6.2	Reactive Waste Buffer Zone [B-6b]	2-14
2.6.3	Travel Time [B-6c]	2-14
2.6.4	Dangerous Waste Monitoring Zone [B-6d]	2-14
2.6.5	Extremely Hazardous Waste Monitoring Zone [B-6e]	2-15

CONTENTS (Cont'd)

2.7	SPILLS AND DISCHARGES INTO THE ENVIRONMENT [B-7]	2-15
2.7.1	Notification [B-7a]	2-15
2.7.2	Mitigation and Control [B-7b]	2-15
2.7.2.1	Cleanup of Released Wastes or Substances [B-7b(1)]	2-15
2.7.2.2	Management of Contaminated Soil, Waters, or Other Materials [B-7b(2)]	2-15
2.7.2.3	Restoration of Impacted Area [B-7b(3)]	2-15
2.8	MANIFEST SYSTEM [B-8]	2-15
2.8.1	Procedures for Receiving Shipments [B-8a]	2-17
2.8.2	Response to Significant Discrepancies [B-8b]	2-17
2.8.3	Provisions for Nonacceptance of Shipment [B-8c]	2-17
2.8.3.1	Nonacceptance of Undamaged Shipment [B-8c(1)]	2-19
2.8.3.2	Activation of Contingency Plan for Damaged Shipment [B-8c(2)]	2-19

FIGURES

2-1.	Hanford Site Location	2-2
2-2.	Location of 305-B Storage Facility	2-4
2-3.	305-B Storage Facility Floor Plan	2-5
2-4.	Wind Roses for the Hanford Site	2-7
2-5.	Corps of Engineers Calculated Floodplain	2-9
2-6.	Hanford Site Primary and Secondary Roads	2-11
2-7.	Sample Uniform Hazardous Waste Manifest Form	2-16
2-8.	Example Chemical Disposal/Recycle Request Form	2-18

2.0 FACILITY DESCRIPTION AND GENERAL PROVISIONS [B]

This chapter briefly describes the Hanford Site and provides a general overview of the 305-B facility, including:

- Topography
- Location information
- Traffic information
- Performance standards
- Buffer monitoring zones
- Spills and discharges
- Manifest system.

2.1 GENERAL DESCRIPTION [B-1]

This section provides a general description of the Hanford Site and the 305-B Storage Facility.

2.1.1 The Hanford Site

The Hanford Site consists of approximately 560 square miles (1450 square km) of semiarid land that is owned by the U.S. Government and managed by DOE-RL. This site is located northwest of the City of Richland, Washington, along the Columbia River (Fig. 2-1). The City of Richland lies approximately 3 miles (4.8 km) from the southernmost portion of the Hanford Site boundary and is the nearest population center. In early 1943, the U.S. Army Corps of Engineers selected the Hanford Site as the location for reactor, chemical separation, and related facilities for the production and purification of plutonium. A total of eight graphite-moderated reactors using Columbia River water for once-through cooling were built along the river. These reactors were operated from 1944 to 1971.

N Reactor, a dual-purpose reactor for production of plutonium and generation of byproduct steam for production of electricity, uses recirculating water coolant. N Reactor began operating in 1963 and is in the process of being put in a dry standby status.

Activities are centralized in numerically designated areas on the Hanford Site. The reactor facilities (active and decommissioned) are located along the Columbia River in the 100 Areas. The reactor fuel processing and waste management facilities are located in the 200 Areas, situated on a plateau about 7 miles (11.2 km) from the river. The 300 Area, located north of Richland, contains mostly reactor fuel manufacturing facilities and research and development laboratories. The 400 Area, 5 miles (8 km) northwest of the 300 Area, contains the Fast Flux Test Facility. The 1100 Area, north of Richland, contains buildings associated with maintenance and transportation functions for the Hanford Site. Administrative buildings and other research and development laboratories are found in the 3000 Area, also north of Richland. Administrative buildings are also located in the 700 Area in downtown Richland.

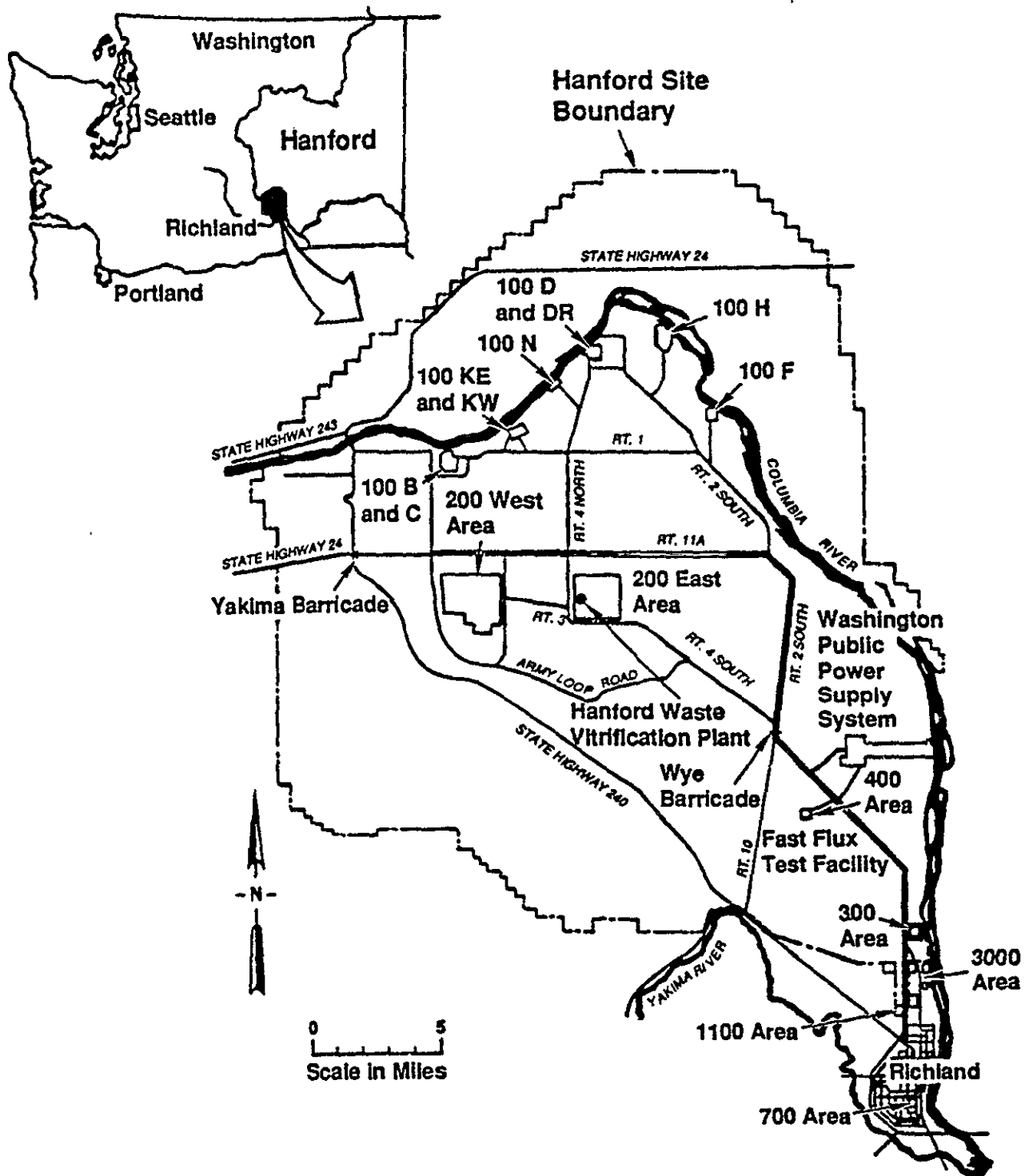


Figure 2-1. Hanford Site Location.

2.1.2 The 305-B Storage Facility

The 305-B Storage Facility is a dangerous waste and RMW storage facility owned by DOE and co-operated by PNL. The facility is used for the collection, consolidation, packaging, and storage of dangerous waste and RMW. It serves, along with its companion facility, 332 Building, as an integral part of the Hanford Site's waste management system.

The 305-B facility is a two-story metal and concrete building constructed in January 1978. The facility is located within the 300 Area, as shown in Figure 2-2, and was formerly used for engineering research and development. The facility was recently upgraded to meet requirements for storage of dangerous waste and RMW. Waste storage began in March 1989. Dangerous wastes are stored in four storage cells located in the high bay, which occupies an area 60 by 74 ft. Each storage cell is approximately 14 by 14 ft and enclosed by 4-ft high concrete block walls. The floor plan for 305-B is shown in Figure 2-3.

A large number of small volume chemical wastes are generated from general research laboratory activities. These wastes are brought to the facility, segregated into compatible storage cells, and stored until enough material is accumulated to fill a 30- to 55-gal shipping container. When a sufficient number of shipping containers of waste has accumulated, they are manifested for shipment to an off-site permitted treatment or disposal facility.

RMW is stored in the basement, which occupies an area 120 by 20 ft. RMW is stored in cells formerly used to store radioactive materials.

2.2 TOPOGRAPHIC MAP [B-2]

Topographic maps of the Hanford Site and 300 Area are provided in Appendix 2A. Information presented on these maps is discussed in the following sections.

2.2.1 General Requirements [B-2a]

Plate 2-1 in Appendix 2A is a general overview map of the Hanford Site property and the surrounding countryside. This figure is intended as a location map and illustrates the following:

- The facility boundary of the Hanford Site
- Surrounding land use including the Saddle Mountain National Wildlife Refuge and the State Game Reserve to the north, the City of Richland to the south, Rattlesnake Mountain Arid Lands Ecology (ALE) Reserve located to the west, and farmlands or Game Reserves to the east
- Contours sufficient to show surface water flow
- Locations of the various Areas described in Section 2.1.1
- Fire control facilities located on the Hanford Site

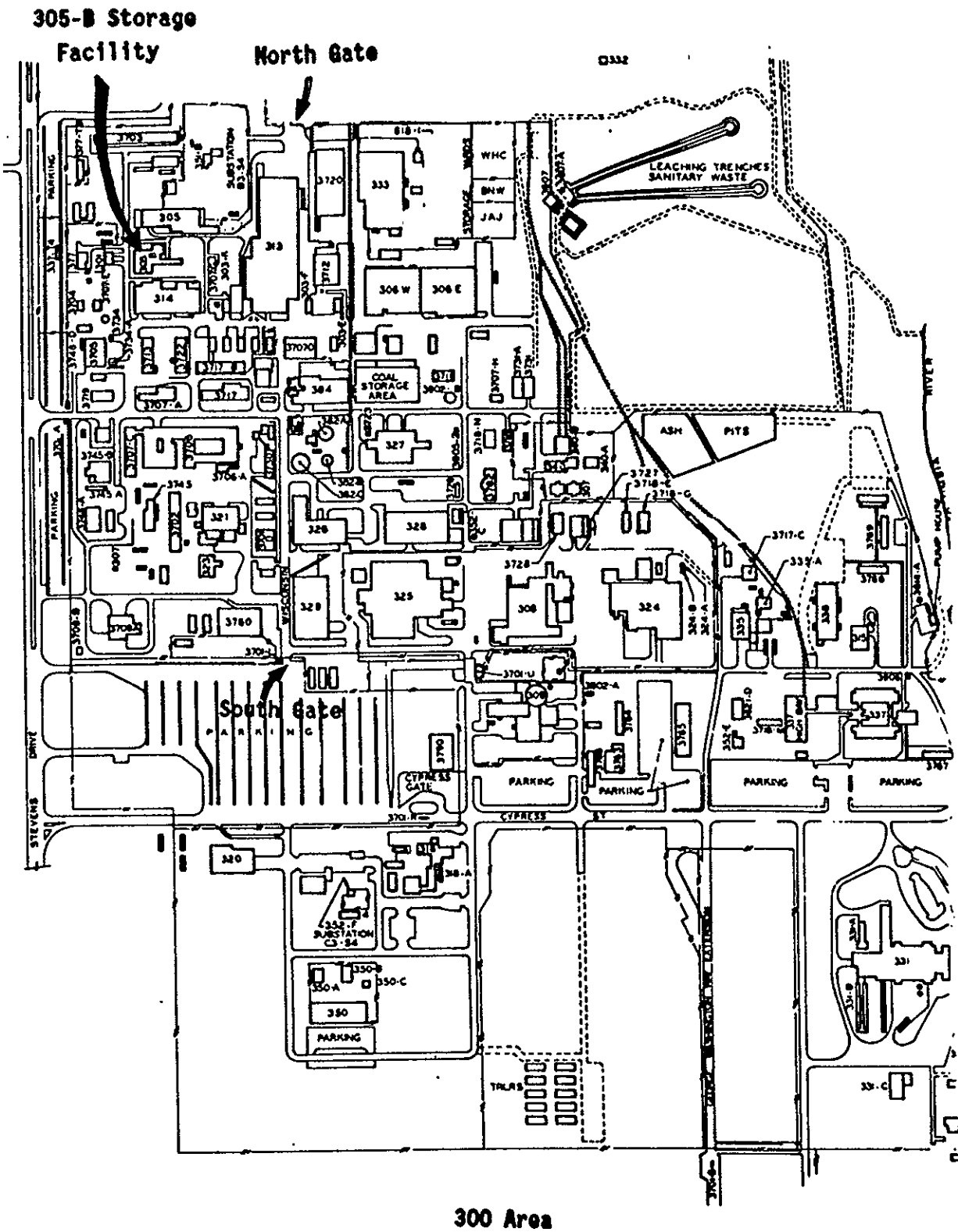
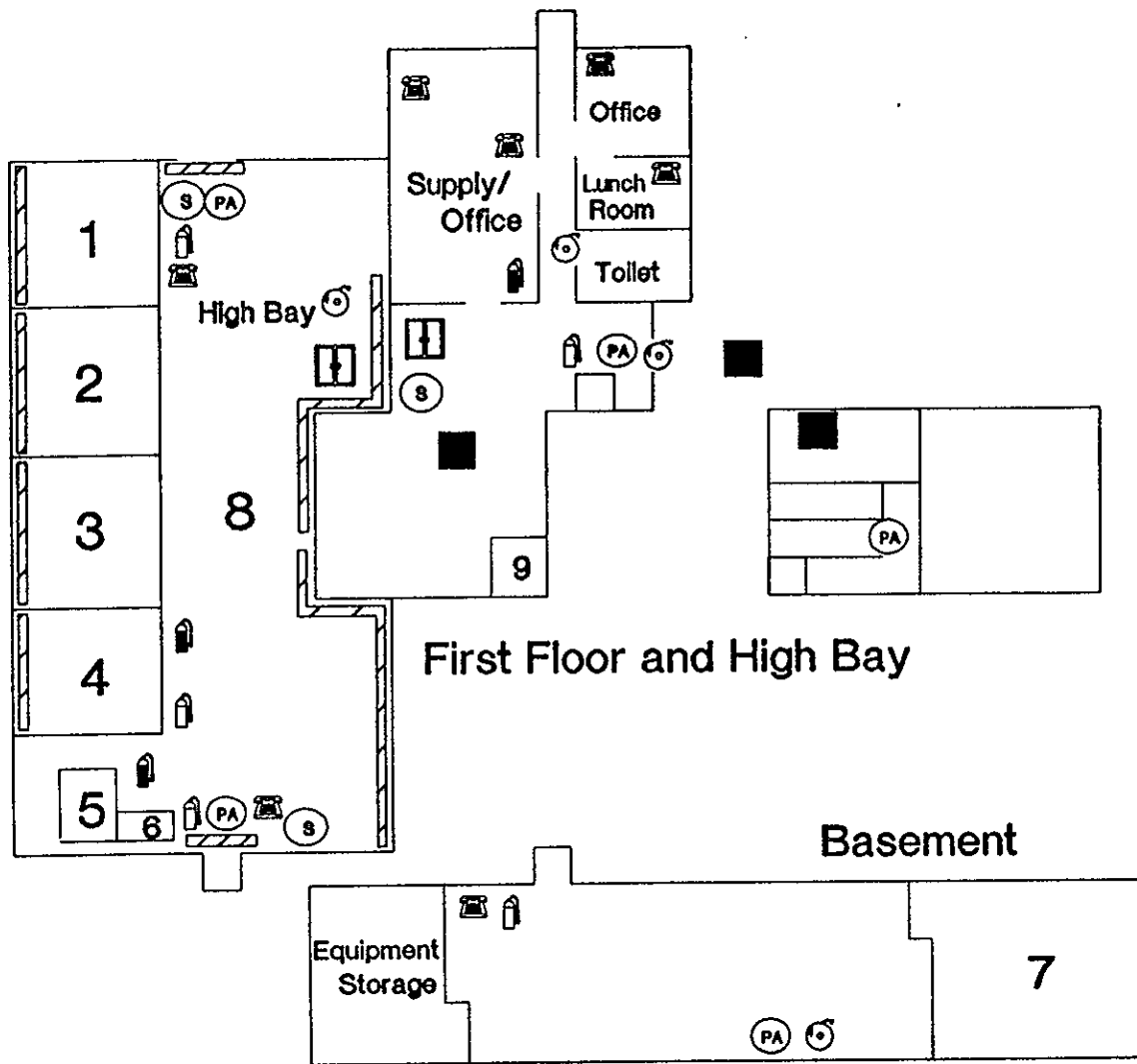


Figure 2-2. Location of 305-B Storage Facility.



LEGEND

- | | |
|---------------------------------|---------------------------------|
| 1 Acids, Oxidizers | (S) Safety Shower/Eyewash |
| 2 Poisons, ORM | ☎ Phone |
| 3 Caustics, Non-regulated, WSDW | 🔔 Fire Alarm Bell |
| 4 Hydrocarbons | (PA) Fire Alarm Pull Box |
| 5 Liquid Bulking Module | 🔥 14 lb Halon Fire Extinguisher |
| 6 Asbestos Cabinet | 🔥 10 lb ABC Fire Extinguisher |
| 7 RMW Storage Cell | ■ Removable Access to Basement |
| 8 High Bay Floor Storage | 🚪 Emergency Equipment Cabinet |
| 9 Small Quantity Flammable RMW | ▨ Collection Sumps |

Figure 2-3. 305-B Storage Facility Floor Plan.

- Locations of access roads, internal roads, railroads, and perimeter gates and barricades
- Latitudes and longitudes.

Plates 2-2 through 2-7 in Appendix 2A provide a detailed representation of the Hanford 300 Area where the 305-B Storage Facility is located. These maps provide a detailed profile of the facility and a distance of 1,000 ft around it at a scale of 1 in. equals 40 ft. Contour intervals are shown at every foot, and provide sufficient detail of surface waters and flow, access control, buildings, structures, fire control facilities, etc., to meet the requirements of WAC 173-303-806(4)(a) (Ecology 1989).

Figure 2-4 illustrates wind roses for various locations on the Hanford Site. Winds are predominately from the west.

2.2.2 Additional Requirements for Land Disposal Facilities [B-2b]

Because the 305-B Storage Facility is used only for the storage of dangerous waste and not waste disposal, these requirements are not applicable.

2.3 LOCATION INFORMATION [B-3]

The 305-B Storage Facility is located in the northwest corner of the 300 Area, as shown in Figure 2-2. The following sections contain information related to the location requirements for dangerous waste facilities.

2.3.1 Seismic Consideration [B-3a]

The 305-B Storage Facility is located in Benton County, Washington, and is not within one of the political jurisdictions identified in Appendix VI of Title 40 Code of Federal Regulations (CFR) Part 264 (EPA 1988) and in WAC 173-303-420(3)(c) (Ecology 1989). Therefore, no further demonstration of compliance with the seismic standard is required.

2.3.2 Floodplain Standard [B-3b]

The 305-B Storage Facility is located in the 300 Area, which is adjacent to the Columbia River, approximately at river mile 345. Floods of the Columbia River were, therefore, considered for determining compliance with floodplain standards. Floods of other water bodies (i.e., the Yakima River, ephemeral streams on the Hanford Site) were not considered because of their great distance when compared to the distance to the Columbia River.

One hundred-year floodplains are identified in flood insurance rate maps developed by the Federal Emergency Management Agency (FEMA). The FEMA maps for Benton County, Washington, do not include the Hanford Site. Determination of whether 305-B is located in a 100-year floodplain, therefore, was made by comparing the land surface elevation at 305-B with the nearest downstream 100-year flood base elevation identified on the FEMA maps for Benton County. The nearest 100-year floodplain identified on the Benton County FEMA maps is at Columbia Point, approximately nine miles downstream of 305-B at river mile 336.

90117310177

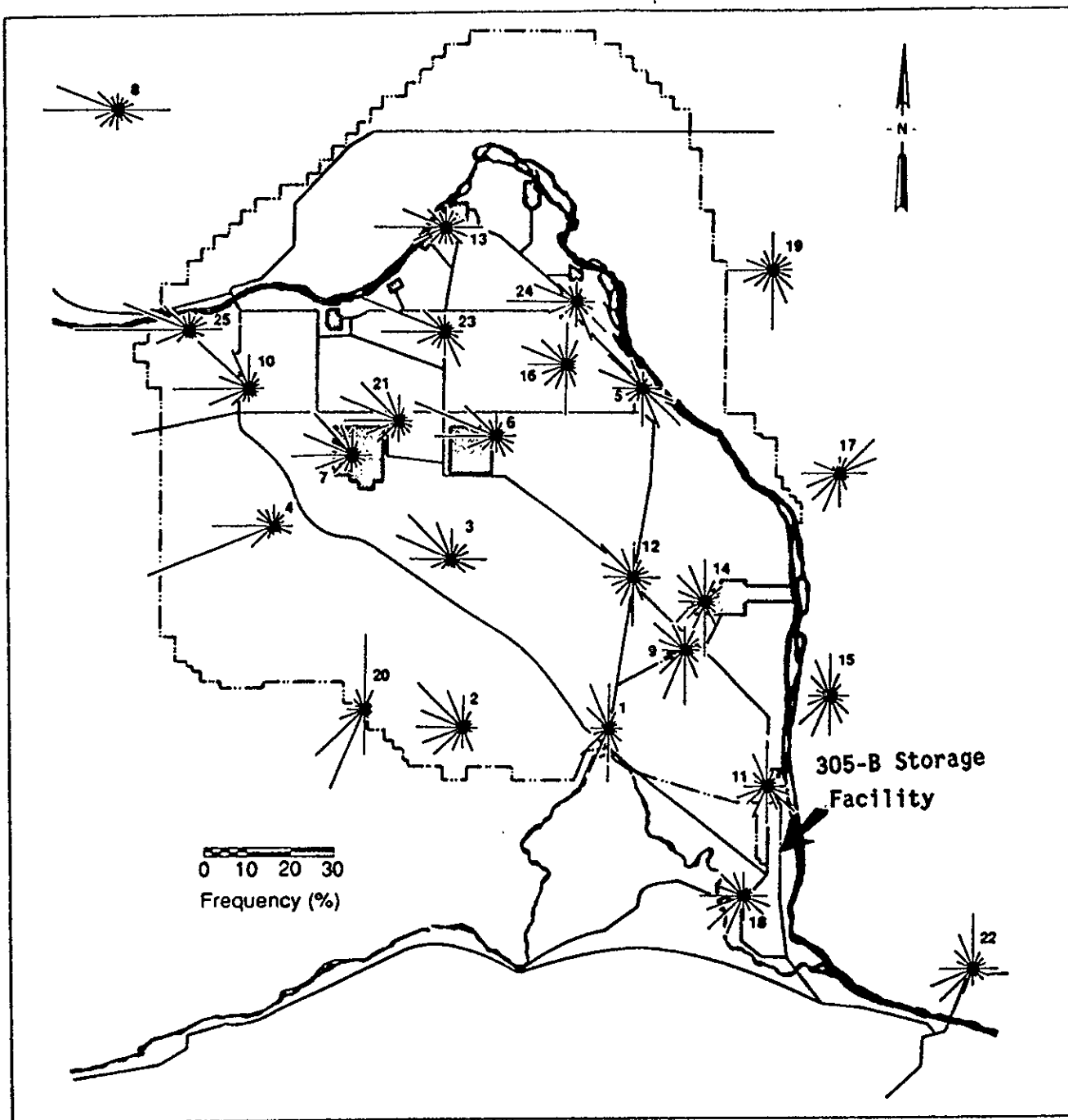


Figure 2-4. Wind Roses for the Hanford Site.

1 The FEMA map for this area (FEMA 1982) identifies a 100-year flood base elevation
2 of 352 ft above mean sea level (AMSL). This elevation is significantly below the
3 elevation of 305-B, which is 387 ft AMSL (see topographic maps in Appendix 2A).
4

5 The potential for the 305-B to be inundated during a flood was also evaluated by
6 comparison to the maximum probable flood for the Columbia River, which is greater
7 than the 100-year flood.
8

9 The Army Corp of Engineers (COE) has calculated the probable maximum flood for
10 the Columbia River based on the upper limit of precipitation falling on a
11 drainage area and other hydrologic factors such as antecedent moisture
12 conditions, snowmelt, and tributary conditions that could lead to maximum run-
13 off. The probable maximum flood for the Columbia River below Priest Rapids Dam
14 has been calculated to be 1.4 million cubic feet per second (COE 1969). This
15 flow would result in flood elevations of 423 ft AMSL at the 100-N Area and 384 ft
16 AMSL at the 300 Area. Figure 2-5 shows those portions of the Hanford Site which
17 would be effected by the probable maximum flood. The location of the 305-B
18 Storage Facility is at 387 AMSL. Because the facility is constructed on
19 relatively flat topography, the 3-ft differential between the maximum flood level
20 and the elevation of the storage facility corresponds to an areal separation of
21 approximately 1,500 ft. Therefore, the location of 305-B is safe from flooding
22 and thus meets the floodplain standard.
23

24 **2.3.2.1 Demonstration of Compliance [B-3b(1)].** Because the location of the
25 305-B Storage Facility is not within the boundary of the 100-year floodplain, no
26 demonstration of compliance is required.
27

28 **2.3.2.1.1 Flood Proofing and Flood Protection Measures [B-3b(1)(a)].** Because
29 the 305-B Storage Facility is not within the boundary of the 100-year flood
30 plain, no demonstration of compliance is required.
31

32 **2.3.2.1.2 Flood Plan [B-3b(1)(b)].** Because the 305-B Storage Facility is not
33 within the boundary of the 100-year flood plain, no demonstration of compliance
34 is required.
35

36 **2.3.2.2 Plan for Future Compliance With Floodplain Standard [B-3B(2)].** Because
37 the location of the 305-B Storage Facility is not within the boundary of the
38 100-year floodplain, no demonstration of compliance is required.
39

40 **2.3.3 Shoreline Standard [B-3c]**

41

42 The 305-B Storage Facility is not located within "shorelines of the state" or
43 "wetlands" as defined in the Shoreline Management Act of 1971 [Revised Code of
44 Washington (RCW) 90.58.030(2)]. 305-B is located approximately 2,600 ft from the
45 Columbia River (a "shoreline of state-wide significance" as defined in the
46 Shoreline Management Act), but is not within the wetland area (i.e., within 200
47 ft of the high water mark).
48

49 The Hanford Site is owned by the U.S. Government and operated by DOE-RL. The
50 Hanford Site has been used for production and test reactor operations and related
51 activities since 1943. The Hanford Site is not classified as natural,
52 conservancy, rural, or residential.

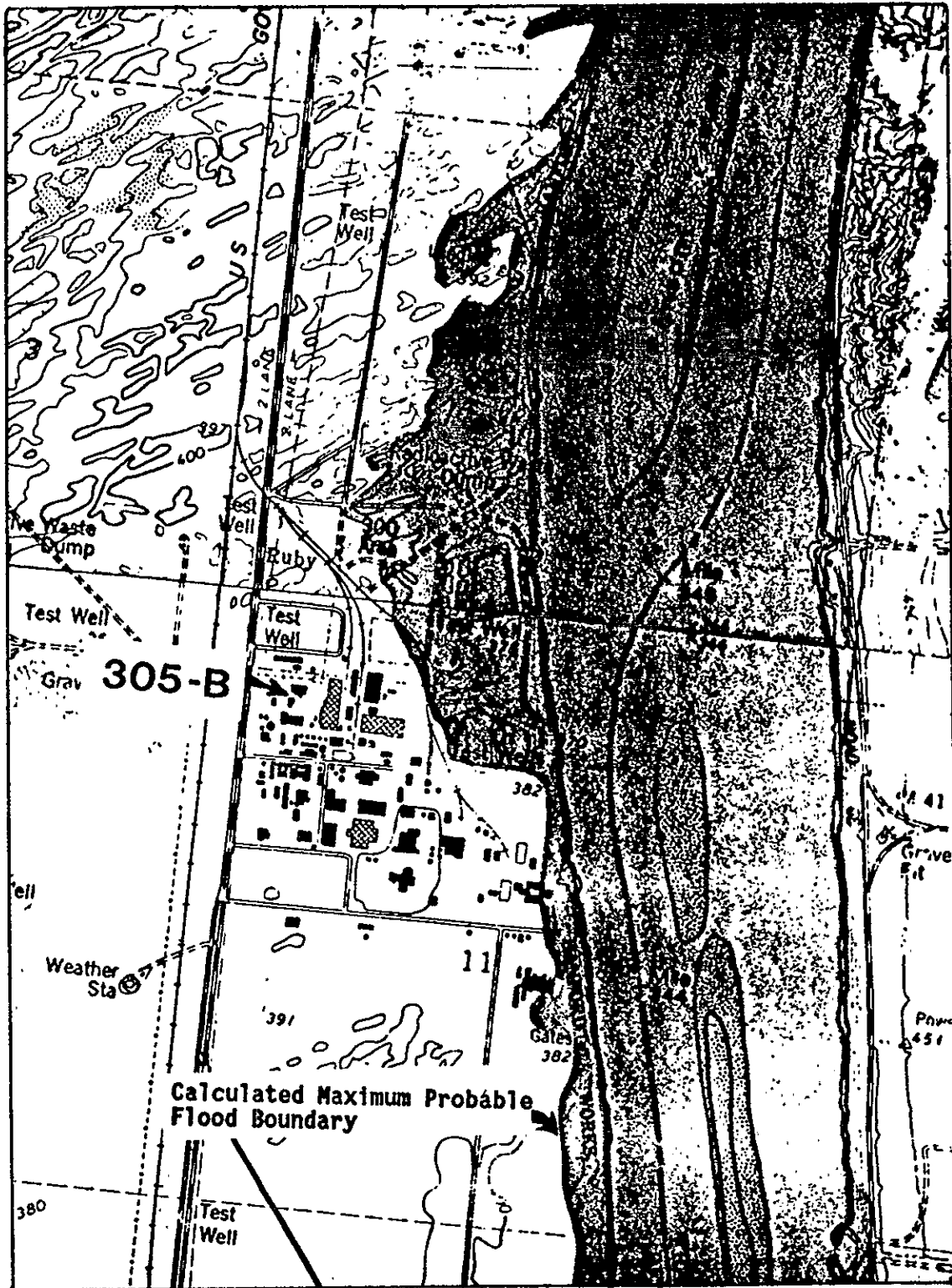


Figure 2-5. Corps of Engineers Calculated Floodplain.

1 **2.3.4 Sole Source Aquifer Criteria [B-3d]**

2
3 The 305-B Storage Facility is not located over a sole source aquifer as defined
4 in Section 1424(e) of the Safe Drinking Water Act of 1974.
5

6
7 **2.4 TRAFFIC INFORMATION [B-4]**

8
9 The DOE-controlled Hanford Site is traversed by numerous primary and secondary
10 roads as shown by Figure 2-6. The DOE roadways inside the site, except for
11 Routes 45 and 10 south of the Wye Barricade, are restricted to authorized
12 personnel and cannot be accessed by the general public. The majority of the site
13 traffic consists of light duty vehicles and buses used to transport employees to
14 various operation sites within the Hanford boundary. Primary routes include
15 Routes 4S, 10, 4N, 2N, 1, 6, 11A, as well as various avenues within the site
16 boundary. The primary routes are constructed of bituminous asphalt (usually 2
17 in. thick, but the thickness of the asphalt layer will vary with each road) with
18 an underlying aggregate base in accordance with U.S. Department of Transportation
19 (DOT) requirements. The secondary routes are constructed of layers of an oil and
20 rock mixture with an underlying aggregate base. The aggregate base consists of
21 various types and sizes of rock found on site. Currently, no load-bearing cap-
22 acities of these roads are available; however, loads as large as 140 pounds per
23 square in. have been transported without observable damage to road surfaces.
24

25 Access to the 300 Area by vehicular traffic is by Stevens Drive. Traffic on
26 Stevens Drive consists of personal vehicles, buses for the transport of personnel
27 to and from work, and light duty trucks for the transport of materials.
28

29 Wastes generated at laboratories within the 300 Area are transported to 305-B
30 over Hanford roads which are not accessible to the general public. DOE controls
31 access to site roads in accordance with security and programmatic requirements.
32 Wastes generated at other facilities within the Hanford Site but outside the 300
33 Area are transported over Hanford roads as well. These roads are accessible to
34 the general public only south of the Wye Barricade (Fig. 2-6). Only those wastes
35 generated at facilities outside of the Hanford Site are transported on public
36 roads, i.e., Stevens Drive. Access to the 300 Area is limited to U.S. Government
37 vehicles having official business. As a result, traffic within the 300 Area is
38 very light. All roads within the 300 Area are paved, all-weather roads. There
39 are no traffic signals within the 300 Area.
40

41
42 **2.5 PERFORMANCE STANDARD [B-5]**

43
44 The 305-B Storage Facility was designed to minimize the exposure of personnel to
45 dangerous wastes and hazardous substances and to prevent dangerous wastes and
46 hazardous substances from reaching the environment.
47

48 In addition, measures are taken to ensure that 305-B is maintained and operated,
49 to the maximum extent practicable given the limits of technology, in a manner
50 that prevents:

2010710181

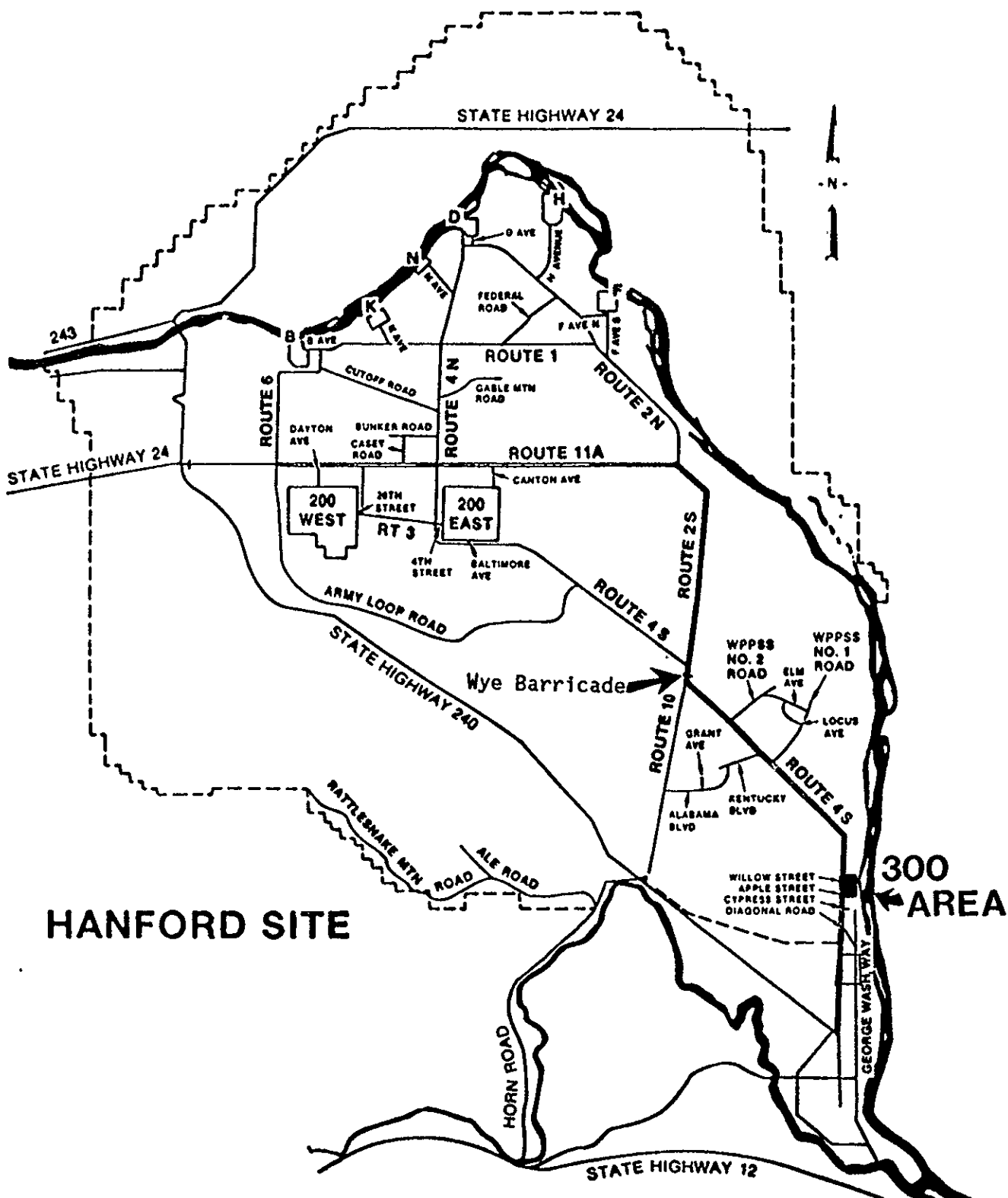


Figure 2-6. Hanford Site Primary and Secondary Roads.

- Degradation of groundwater quality
- Degradation of air quality by open burning or other activities
- Degradation of surface water quality
- Destruction or impairment of flora or fauna outside of the facility
- Excessive noise
- Negative aesthetic impacts
- Unstable hillsides or soils
- Use of processes that do not treat, detoxify, recycle, reclaim, and recover waste material to the extent economically feasible
- Endangerment to the health of employees or the public near the facility.

The measures taken to prevent each of the above negative effects from occurring are described in the following sections.

2.5.1 Measures to Prevent Degradation of Groundwater Quality

Degradation of groundwater quality is prevented by storing waste containers inside an enclosed building having a sealed concrete floor. In addition, 305-B accepts only those waste packages meeting appropriate DOT requirements. Opening of containers is done only in areas with spill containment. Facility design and administrative controls significantly reduce the possibility of loss of waste to the ground and/or contamination of the groundwater.

2.5.2 Measures to Prevent Degradation of Air Quality by Open Burning or Other Activities

No open burning occurs at 305-B. There is no vegetation around 305-B and the area around the facility is paved or graveled, thereby reducing the risk of fire or wind erosion. Combustible and flammable waste is packaged in a manner that reduces the potential for fire.

2.5.3 Measures to Prevent Degradation of Surface Water Quality

The potential for degradation of surface water quality is extremely low due to the manner in which the facility is designed and operated. All waste handling activities (i.e., loading/unloading, container opening, waste transfer) presenting the opportunity for spills are conducted inside the facility. All exits from storage areas of the facility are equipped with spill collection sumps to prevent spilled material from leaving the facility.

2.5.4 Measures to Prevent Destruction or Impairment of Flora or Fauna Outside of the Facility

The 305-B Storage Facility is located within the 300 Area. The 300 Area is highly developed and areas not occupied by buildings are generally paved or

1 graveled. As a result, flora or fauna are generally absent within the 300 Area
2 except for several grassed areas. Measures to prevent destruction or impairment
3 of flora or fauna outside the 300 Area are the same as those to prevent releases
4 from the facility (i.e., all waste handling is performed within an enclosed area
5 having spill collection sumps).
6

7 **2.5.5 Measures to Prevent Excessive Noise**

8
9 During normal operations at 305-B excessive noise is not generated. The major
10 sources of noise are waste transport and handling equipment (i.e., forklifts,
11 light vehicles). The noise generated at 305-B is compatible with the types of
12 activities generated at neighboring facilities in the 300 Area.
13

14 **2.5.6 Measures to Prevent Negative Aesthetic Impacts**

15
16 305-B does not injure or destroy the surrounding flora and fauna. The facility
17 stores waste in approved DOT containers within the confines of the structure.
18 The building's appearance is similar to neighboring facilities. For these
19 reasons, the facility presents no negative aesthetic impacts.
20

21 **2.5.7 Measures to Prevent Unstable Hillsides or Soils**

22
23 There are no naturally unstable hillsides near 305-B. The soil beneath and
24 around the facility was compacted prior to construction.
25

26 **2.5.8 Measures to Prevent the Use of Processes That Do Not Treat, Detoxify, Recycle, Reclaim, and Recover Waste Material to the Extent Economically Feasible**

27
28 The 305-B facility is being permitted as a storage facility only, not as a
29 treatment facility. Therefore, this requirement is not applicable to 305-B.
30
31
32

33 **2.5.9 Measures to Prevent Endangerment to the Health of Employees or the Public Near the Facility**

34
35 The 305-B Storage Facility is within the 300 Area, which is located approximately
36 1 mile north of the corporate limits of the City of Richland. There is no public
37 access to the 300 Area and members of the public, therefore, cannot gain access
38 to 305-B. Exposure of members of the public or employees to dangerous and mixed
39 waste constituents is prevented through administrative controls over the
40 designation, packaging, loading, transporting, and storing of the wastes received
41 at 305-B. In addition, physical controls exist (i.e., spill collection sumps) to
42 prevent release of wastes or waste constituents in the event of a spill.
43
44

45 Employees are trained to handle and store waste packages (Chapter 8.0). The
46 training includes dangerous waste awareness, emergency response, and workplace
47 safety. Protective equipment, safety data, and hazardous materials information
48 are supplied by operations management and are readily available for employee use.
49

50 A contingency plan, including emergency response procedures, is in place and is
51 implemented for spill prevention, containment, and countermeasures to reduce
52 safety and health hazards to employees, the environment, and the public. The
contingency plan is described in Chapter 7.0.

2.6 BUFFER MONITORING ZONES [B-6]

Buffer and monitoring zones around 305-B are described in the following sections.

2.6.1 Ignitable or Reactive Waste Buffer Zone [B-6a]

Ignitable and reactive wastes are stored in 305-B in compliance with the requirements of the 1988 Uniform Fire Code, Article 79, Division II (International Conference of Building Officials 1988). Quantity limits for storage are established to comply with requirements for Class B occupancy. Structures surrounding 305-B are laboratory and office buildings which are occupied during normal working hours. The nearest adjacent facility is the 314 Building, which is approximately 30 ft south of 305-B. The closest 300 Area boundary is the western boundary, which is approximately 250 ft west of 305-B.

2.6.2 Reactive Waste Buffer Zone [B-6b]

Storage of reactive wastes at 305-B is done in compliance with Uniform Building Code limits for Class B occupancy. Under these limits, storage of certain materials which may exhibit the characteristics specified in WAC 173-303-090(7)(a)(vi), (vii), or (viii) is allowed. These limits include:

- Explosives - 1 lb
- Organic peroxide, unclassified, detonatable - 1 lb
- Pyrophoric - 4 lbs
- Unstable (reactive), Class 4 - 1 lb.

Storage of these quantities of reactive materials is compliant with the buffer distance requirements given in Table 77.201 of the 1988 Uniform Fire Code (International Conference of Building Officials 1988). It is noted that while storage of such materials is allowed by the Uniform Fire Code, such materials are rarely stored in 305-B.

2.6.3 Travel Time [B-6c]

Operation of 305-B does not involve the placement of waste in dangerous waste surface impoundments, piles, landfarms, or landfills. Therefore, the requirement that the travel time from the active portion of the facility to the nearest downstream well or surface water used for drinking purposes be at least three years for dangerous waste and 10 years for extremely hazardous waste does not apply.

2.6.4 Dangerous Waste Monitoring Zone [B-6d]

Operation of 305-B does not involve the placement of waste in dangerous waste surface impoundments, waste piles, land treatment, or landfill areas. Therefore, a dangerous waste monitoring zone is not required.

2.6.5 Extremely Hazardous Waste Monitoring Zone [B-6e]

Operation of the 305-B does not involve the placement of waste in dangerous waste surface impoundments, waste piles, land treatment, or landfill areas. Therefore, an extremely hazardous waste monitoring zone is not required.

2.7 SPILLS AND DISCHARGES INTO THE ENVIRONMENT [B-7]

The procedures that are followed to ensure immediate response to a nonpermitted spill or discharge of nonradioactive dangerous wastes or hazardous substances from 305-B to the environment, and the immediate notification of authorities are discussed in Chapter 7.0. As a convenience, checklist items listed below are cross-referenced to the appropriate section or sections of Chapter 7.0.

2.7.1 Notification [B-7a]

Information regarding notifications made to authorities in the event of a nonpermitted spill or discharge of hazardous substances into the environment is included in Section 7.4.1.

2.7.2 Mitigation and Control [B-7b]

Actions taken to protect human health and the environment in the event of a nonpermitted spill or discharge are discussed in Sections 7.4.2 through 7.4.8. Additional information describing the responses to container spills or leaks is included in Section 7.4.9.

2.7.2.1 Cleanup of Released Wastes or Substances [B-7b(1)]. Actions taken to clean up all released hazardous/dangerous wastes or hazardous substances and criteria used to determine the extent of removal are described in Sections 7.4.4 and 7.4.6.

2.7.2.2 Management of Contaminated Soil, Waters, or Other Materials [B-7b(2)]. Actions taken to demonstrate that all soil, waters, or other materials contaminated by a spill or discharge are treated, stored, or disposed of in accordance with WAC 173-303 are included in Sections 7.4.6, 7.4.7, 7.4.8, and 7.4.9. A description of identification of hazardous and dangerous materials is presented in Section 7.4.2.

2.7.2.3 Restoration of Impacted Area [B-7b(3)]. Due to the location of 305-B in the 300 Area, spills or discharges occurring on property which is not owned by the U.S. Government are unlikely. Therefore, a description of the actions to be taken to restore the impacted area and to replenish resources is not required.

2.8 MANIFEST SYSTEM [B-8]

The Uniform Hazardous Waste Manifest (Fig. 2-7) is used for all off-site shipments of dangerous waste and RMW received at 305-B, as well as for all off-site shipments of dangerous waste and RMW from 305-B. With respect to the wastes received at 305-B, all wastes are generated by Hanford contractors and, therefore, are generated on the Hanford Site. Some of these wastes must,

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0038. Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of	Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address				A. State Manifest Document Number		
4. Generator's Phone ()				B. State Generator's ID		
5. Transporter 1 Company Name		6. US EPA ID Number		C. State Transporter's ID		
7. Transporter 2 Company Name		8. US EPA ID Number		D. Transporter's Phone		
9. Designated Facility Name and Site Address		10. US EPA ID Number		E. State Transporter's ID		
				F. Transporter's Phone		
				G. State Facility's ID		
				H. Facility's Phone		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a.						
b.						
c.						
d.						
J. Additional Descriptions for Materials Listed Above				K. Handling Codes for Wastes Listed Above		
15. Special Handling Instructions and Additional Information						
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.						
Printed/Typed Name				Signature		Month Day Year
17. Transporter 1 Acknowledgement of Receipt of Materials				Month Day Year		
Printed/Typed Name				Signature		Month Day Year
18. Transporter 2 Acknowledgement of Receipt of Materials				Month Day Year		
Printed/Typed Name				Signature		Month Day Year
19. Discrepancy Indication Space						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name				Signature		Month Day Year

Style F15REV-6 LABELMASTER, Div. of AMERICAN LABELMARK CO., CHICAGO, IL 60648

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

Figure 2-7. Sample Uniform Hazardous Waste Manifest Form.

however, be transported to 305-B on roads accessible to the general public. Such wastes are considered to be from "off-site" sources even though generated by Hanford contractors. Similarly, some wastes are transported from 305-B to other waste management facilities on the Hanford Site outside of the 300 Area. Since transport occurs on roads accessible to the general public, these shipments are considered to be "off-site" even though they remain on the Hanford Site. In addition to the Uniform Hazardous Waste Manifest, wastes subject to land disposal restrictions which are shipped from 305-B to off-site treatment, storage, or disposal facilities are accompanied by the applicable notifications and certifications required under 40 CFR 268 (EPA 1989).

The following sections provide information on receiving shipments, response to manifesting discrepancies, and provisions for nonacceptance of shipments.

2.8.1 Procedures for Receiving Shipments [B-8a]

The following procedures are used prior to transport of wastes to the 305-B Storage Facility. First, the generator must submit a Chemical Disposal/Recycle Request form (Fig. 2-8) to the waste management organization. The waste management organization then reviews this form to determine the dangerous waste designation, waste compatibility class, and container and labeling requirements. The waste is then inspected by the waste management organization to verify the information contained on the request form and to verify that the waste is properly containerized. If a discrepancy is noted (i.e., the waste is not as described on the request form or the generator has insufficient supporting data to verify the waste characteristics), or the waste is improperly packaged, it will not be accepted. In this case, deficiencies will be explained to the generator, who will then be responsible for correcting them. If the waste is acceptable for transport, waste management staff will affix required labels and transport the waste to 305-B. If transport will be over roads accessible to the general public, a Uniform Hazardous Waste Manifest will be prepared, identifying PNL as the transporter and 305-B as the receiving facility. A copy of the manifest is returned to the generator within 30 days of receipt at 305-B. A copy of the manifest is also retained at 305-B.

2.8.2 Response to Significant Discrepancies [B-8b]

The procedures described in Section 2.8.1 are designed to prevent significant discrepancies. Waste management organization staff inspect wastes prior to shipment to assure that they are properly characterized, labeled, and packaged. This inspection serves to identify and correct discrepancies before wastes are shipped. For off-site shipments (i.e., shipments transported on roads accessible to the public), manifests are prepared by staff from the waste management organization. Because one organization is responsible for waste manifesting, waste transportation, and receipt and storage of wastes at 305-B, the opportunity for discrepancies is minimized.

2.8.3 Provisions for Nonacceptance of Shipment [B-8c]

Provisions for nonacceptance of shipments are discussed in the following sections.

2.8.3.1 Nonacceptance of Undamaged Shipment [B-8c(1)]. As described in Section 2.8.1, all wastes are inspected by staff from the waste management organization prior to shipment and are also transported to 305-B by waste management organization staff. This procedure is designed to prevent receipt of nonacceptable wastes. Waste management organization staff will refuse to accept or transport wastes which are nonacceptable at 305-B.

2.8.3.2 Activation of Contingency Plan for Damaged Shipment [B-8c(2)]. As described in Section 2.8.1, all wastes are inspected by staff from the waste management organization prior to shipment and are also primarily transported to 305-B by waste management organization staff. Damaged containers will not be accepted from the generator and will not be transported. The only opportunity for receipt of damaged containers, therefore, would be if containers were damaged during transportation. If a shipment of waste is damaged during transportation and arrives in a condition as to present a hazard to public health or the environment, the facility contingency plan will be implemented as described in Chapter 7.0.

1
2
3
4
5

This page intentionally left blank.

CONTENTS

3.0	WASTE CHARACTERISTICS [C]	3-1
3.1	CHEMICAL, BIOLOGICAL, AND PHYSICAL ANALYSIS [C-1]	3-1
3.1.1	Containerized Wastes [C-1a]	3-4
3.1.2	Waste in Tank Systems [C-1b]	3-4
3.1.3	Waste in Piles [C-1c]	3-4
3.1.4	Landfilled Wastes [C-1d]	3-4
3.1.5	Wastes Incinerated and Wastes Used in Performance Tests [C-1e]	3-4
3.1.6	Wastes to be Land Treated [C-1f]	3-4
3.2	WASTE ANALYSIS PLAN [C-2]	3-5
3.2.1	Parameters and Rationale [C-2a]	3-11
3.2.2	Test Methods [C-2b]	3-11
3.2.3	Sampling Methods [C-2c]	3-11
3.2.4	Frequency of Analyses [C-2d]	3-19
3.2.5	Additional Requirements for Waste Generated Offsite [C-2e]	3-19
3.2.6	Additional Requirements for Ignitable, Reactive, or Incompatible Wastes [C-2f]	3-19

TABLES

3-1.	Typical Reference Materials.	3-8
3-2.	Summary of Test Parameters, Rationales, and Methods.	3-12

This page intentionally left blank.

90011010

3.0 WASTE CHARACTERISTICS [C]

305-B receives a wide variety of dangerous waste and limited quantities of RMW. This variety results from the nature of the activities generating the wastes, namely research and development. This chapter describes the characteristics of the wastes received at 305-B, and presents the waste analysis plan used to characterize these wastes to ensure proper management.

3.1 CHEMICAL, BIOLOGICAL, AND PHYSICAL ANALYSIS [C-1]

The dangerous waste and RMW stored at 305-B can be categorized as originating from five basic sources:

- Waste from nonspecific sources
- Discarded commercial chemical products
- Waste from research activities using radioactive isotopes
- Waste from chemicals synthesized or created in research laboratories
- Discarded commercial products exhibiting dangerous waste characteristics and/or criteria.

Each of these waste categories is discussed below, including waste descriptions, hazard characteristics, and bases for hazard designations. This information includes that which must be known to treat, store, or dispose of the wastes, as required under WAC 173-303-806(4)(a)(ii).

Wastes from Nonspecific Sources. Wastes from nonspecific sources consist of those listed wastes identified in WAC 173-303-9904. The Part A permit application for 305-B identifies the following wastes from this category with their estimated annual generation rates:

- F001 - Spent halogenated degreasing solvents and sludges (2,000 kg/yr)
- F002 - Spent halogenated solvents and still bottoms (2,000 kg/yr)
- F003 - Spent nonhalogenated solvents and still bottoms (3,000 kg/yr)
- F004 - Spent nonhalogenated solvents and still bottoms (1,000 kg/yr)
- F005 - Spent nonhalogenated solvents and still bottoms (2,000 kg/yr)
- F027 - Discarded polychlorinated phenol formulations (200 kg/yr).

These halogenated and nonhalogenated solvents are in the form of spent solvents; no still bottoms are generated. Degreasing solvents (F001), as well as spent halogenated solvents (F002), are used primarily in research although some commercial applications do exist (printing, duplicating). Spent non-halogenated solvents (F003, F004, and F005) also come primarily from research laboratories, although a significant amount of methyl ethyl ketone (F005) is generated through maintenance applications such as the Craft Services paint shop (350 Building). Manufacturing activities are not performed at Hanford and, therefore, dangerous wastes from specific sources (WAC 173-303-9904 "K" Wastes) are not generated.

Wastes in this category (F Wastes) are generally received at 305-B in 1 gal and 5 gal "flash cans." Methyl ethyl ketone, which is received in 55 gal drums, is an exception.

Wastes in this category are designated on the basis of the generator's knowledge (i.e., information from container labels or material safety data sheets), or by sampling. Sampling is performed if the generator does not have information to document the composition and characteristics of the waste. The waste generator is responsible for specifying the characteristics of the waste on the basis of knowledge of the chemical products used (i.e., information supplied by the manufacturer) and the process generating the waste. These listed wastes are all designated as dangerous waste (DW) unless the generator determines through process knowledge (i.e., knowledge of materials used and concentrations used) that wastes F001 or F002 contain greater than 1% halogenated hydrocarbons. Wastes with greater than 1% halogenated hydrocarbons are designated as extremely hazardous waste (EHW). Wastes F001 through F005 are also designated as land disposal restricted (LDR) wastes under 40 CFR 268.30 (solvent wastes). Waste F027 is designated as an LDR waste under 40 CFR 268.31 (dioxin-containing waste).

Discarded Chemical Products. Discarded chemical products consist of those products listed in WAC 173-303-9903. The Part A permit application for 305-B identifies all of the acutely dangerous chemical products and moderately dangerous chemical products (P001 through P123 and U001 through U247) and specifies an estimated maximum annual generation rate based on prior experience, of 200 kg/yr for each of these wastes. Only a few of these wastes are typically generated at any one time. The Part A listed all of these wastes, however, because the wide variety of research activities conducted at Hanford presents the potential to generate any of these wastes.

These wastes (P Wastes and U Wastes) are typically received at 305-B in the manufacturer's original container. Approximately 70% of these wastes are in partially full opened containers and the remaining 30% are in sealed, unopened containers. These containers typically consist of glass and polyethylene jars or bottles and metal cans having a volume equal to or less than 4 L.

Wastes in this category are designated on the basis of the generator's knowledge. As these wastes are usually in original containers, information on the container label is verified by generator knowledge (i.e., knowledge that material is in its original container) and is used to identify contents. Wastes in "as procured" containers (i.e., original container with intact label) are not sampled. These listed wastes contain those designated as DW as well as those designated as EHW. These wastes are also subject to LDR regulations under 40 CFR 268, including disposal prohibitions and treatment standards.

Wastes from Research Activities Using Radioactive Isotopes. Dangerous wastes from research activities using radioactive isotopes are RMW. These wastes are generated in laboratories performing chemical and physical research, and consist primarily of radiologically contaminated chemicals or lead stacked in sealed 55 gal drums.

These wastes are designated on the basis of generator's knowledge or on the basis of sampling and analysis. The generator's knowledge is used if the generator has kept accurate records of the identities and concentrations of constituents

present in the waste. For example, many generators keep log sheets for accumulation containers in satellite areas to keep a record of waste constituents. If information available from the generator is inadequate for waste designation, the wastes are sampled (as described in Section 3.2) and the results of the analysis are used for designation. These wastes include those designated as dangerous waste mixtures under WAC 173-303-084 and also those designated as characteristic dangerous wastes under WAC 173-303-090. The Part A permit application for 305-B includes all categories of toxic, persistent, and carcinogenic waste mixtures (i.e., both DW and EHW). While not all of these wastes are currently generated or have been generated, the wide variety of research activities conducted at Hanford presents the potential that these wastes could be generated. Similarly, the Part A permit application includes the characteristic dangerous waste categories D001 through D011 (i.e., ignitable, corrosive, reactive, and extraction procedure toxic due to metals). Flammables (i.e., flash point less than 100° Fahrenheit) will not be stored in the below-grade RMW cell; however, ignitables (D001 due to oxidizer content) will be stored in this cell. Flammable RMW is not stored below grade due to Fire Code restrictions. These wastes are stored above the RMW cell in a flammable storage cabinet.

The wastes in this category could include those designated as both DW and EHW. These wastes could also be federal LDR wastes regulated under 40 CFR 268.32 (i.e., "California List" wastes) as well as state LDR wastes regulated under WAC 173-303-140 (e.g., leachable inorganic wastes).

Waste from Chemicals Synthesized or Created in Research Laboratories. Wastes from chemicals synthesized or created in research laboratories typically consist of organics in quantities of 100 g or less, received in small containers.

These wastes are designated on the basis of generator's knowledge or on the basis of sampling and analysis. The generator's knowledge is used if the generator has kept accurate records of the identities and concentrations of constituents present in the waste (e.g., log sheets for accumulation containers). If information available from the generator is inadequate for waste designation, the wastes are sampled (as described in Section 3.2) and the results of the analysis are used for designation. These wastes include those designated as dangerous waste mixtures under WAC 173-303-084 and also those designated as characteristic dangerous wastes under WAC 173-303-090. The Part A permit application for 305-B includes all categories of toxic, persistent, and carcinogenic waste mixtures (i.e., both DW and EHW). While not all of these wastes are currently generated or have been generated, the wide variety of research activities conducted at Hanford presents the potential for their generation. Similarly, the Part A permit application includes the characteristic dangerous waste categories D001 through D011 (i.e., ignitable, corrosive, reactive, and extraction procedure toxic due to metals). The wastes in this category could include those designated as both DW and EHW. These wastes could also be federal LDR wastes regulated under 40 CFR 268.32 (i.e., "California List" wastes) as well as state LDR wastes regulated under WAC 173-303-140 (e.g., organic/carbonaceous wastes).

Discarded Commercial Products Exhibiting Dangerous Waste Characteristics and/or Criteria. Many discarded chemical products handled in 305-B are not listed in WAC 173-303-9903 and are still considered dangerous waste since they exhibit at least one dangerous waste characteristic and/or criterion (WAC 173-303-090 and

WAC 173-303-084). These wastes are included with those listed in the Part A permit application under waste codes D001 through D011, WT01, WT02, WP01, WP02, WC01, and WC02. These wastes are typically received at 305-B in the manufacturer's original container. Approximately 70% of the wastes are in partially full, opened containers; the remaining 30% are in sealed, unopened containers for which no local recycle/reuse options can be identified. These containers typically consist of glass and polyethylene jars or bottles and metal cans having a maximum volume of 4 L.

Wastes in this category are designated based on the generator's knowledge. As these wastes are usually in their original containers, information on the container label is verified by the generator's knowledge and is used to identify the contents. These wastes contain those designated as DW as well as those designated as EHW. These wastes could also be federal LDR wastes regulated under 40 CFR 268.32 (i.e., "California List" wastes) as well as state LDR wastes regulated under WAC 173-303-140 (e.g., organic/carbonaceous wastes, leachable inorganic wastes).

3.1.1 Containerized Wastes [C-1a]

The container storage areas at 305-B meet the containment system requirements of WAC 173-303-630(7)(c). Testing or documentation that the dangerous wastes stored at 305-B do not contain free liquids is, therefore, not required.

3.1.2 Waste in Tank Systems [C-1b]

This section does not apply to the 305-B Storage Facility because wastes are not stored in tanks.

3.1.3 Waste in Piles [C-1c]

This section does not apply to the 305-B Storage Facility because wastes are not stored in piles.

3.1.4 Landfilled Wastes [C-1d]

This section does not apply to the 305-B Storage Facility because wastes are not placed in landfills.

3.1.5 Wastes Incinerated and Wastes Used in Performance Tests [C-1e]

This section does not apply to the 305-B Storage Facility because wastes are not incinerated.

3.1.6 Wastes to be Land Treated [C-1f]

This section does not apply to the 305-B Storage Facility because wastes do not undergo land treatment.

3.2 WASTE ANALYSIS PLAN [C-2]

This section describes the procedures used to obtain the information necessary to manage wastes in accordance with the requirements of WAC 173-303 (Ecology 1989). Most of the information necessary to manage wastes at 305-B is obtained from generators without the need to perform detailed chemical, physical, and biological analysis. This approach is used for the following reasons:

- Because all wastes stored at 305-B are generated on the Hanford Site and/or by PNL research programs, effective administrative control can be maintained over individual waste generators (i.e., the same organization generates the wastes and operates the storage facility)
- Most of the wastes stored at 305-B are discarded chemical products for which knowledge of waste characteristics is available without further analysis
- Many of the wastes stored at 305-B result from research activities which are carefully controlled and documented; this documentation includes information on chemical constituents.

Information provided by waste generators is verified before wastes are accepted for transport to 305-B (e.g., wastes are inspected to verify that they are as described in the disposal request). Generators are not required to sample wastes unless they have inadequate documentation of waste characteristics. Verification sampling of wastes to be shipped offsite from 305-B is required by the disposal contractor and is performed by the contractor.

Because of the importance of administrative controls for the purposes of waste analysis, procedures for management of wastes from the time of generation through storage at 305-B are described below. These procedures demonstrate how sufficient knowledge is obtained from generators to properly manage dangerous and mixed wastes at 305-B. In the event that such knowledge is not available, sampling and analysis is required by 305-B procedures prior to shipment to the storage facility. Detailed information related to sampling and analysis is presented in Sections 3.2.1 through 3.2.6.

Volumetric Description of Wastes. A wide range of waste volumes is collected from research and support activities. The largest unit container collected is a 55-gal drum, which in some circumstances may require overpacking into an 85-gal salvage drum, while the smallest is a trace amount in a small vial.

Large volume containers (greater than 4 L) commonly contain chemicals such as those listed in WAC 173-303-9903 and -9904 and in 40 CFR 261.33, or commercial products which exhibit one or more of the dangerous waste characteristics or criteria. Greater than 99% of the containers generally contain chemicals for which information is easily accessible to determine dangerous designation. This information is generally obtained from the container label, for those wastes in original containers, or from the material safety data sheet (MSDS) for the product.

Notification for Storing of Waste. The waste analysis process begins when the waste management organization is notified of the presence of a chemical or mixed waste. This notification is accomplished by the generator completing and transmitting a Chemical Disposal/Recycle Request Form (Fig. 3-1). The form describes the volume and chemical composition of waste in each waste container for disposal. Hazard and compatibility information are obtained for each item on the disposal request form to ensure the safety of the waste management organization staff collecting and transporting the waste and to ensure safe and appropriate storage in 305-B.

At 305-B, each waste container is labeled with a list of constituents and/or an appropriate hazard description is provided. The containers are also labeled with a label indicating compatibility group and cell location, as well as a unique computer identification number, which enables tracking through the disposal process. Computer-stored hazard information can be referenced by the waste collectors to ensure safe handling, storing, and transporting of waste.

The compatibility and hazard designation are determined using references listed in WAC 173-303-070 and those in Table 3-1. The priority of hazard designation for those substances with multiple hazards or for mixtures is the same used by the DOT in 49 CFR 173.2 (DOT 1988) as shown below:

- 1) Radioactive material
- 2) Poison A
- 3) Flammable gas
- 4) Nonflammable gas
- 5) Flammable liquid
- 6) Oxidizer
- 7) Flammable solid
- 8) Corrosive material (liquid)
- 9) Poison B
- 10) Corrosive material (solid)
- 11) Irritating materials
- 12) Combustible liquid (exceeding 110 gal)
- 13) Other Regulated Material (ORM)-B
- 14) ORM-A
- 15) Combustible liquid (less than 110 gal)
- 16) ORM-E.

Reference sources used for determining waste designations and compatibility must meet four distinct needs of the dangerous waste manager and sample collector. They must enable each to:

- Identify those wastes which are designated dangerous in accordance with WAC 173-303 and whether those wastes are DW or EHW
- Determine whether the waste is restricted from land disposal under 40 CFR 268 or WAC 173-303-140 and, as appropriate, complies with treatment standards under 40 CFR 268 or WAC 173-303-140

(a) indicate how many containers of each size are being offered for disposal or recycle.

(b) If the waste is a mixture, list the components and their approximate percentages. Please provide any information on trade name, manufacturer or unusual chemicals that will assist in disposal analysis.

(c) Trace amounts of metals, cyanide, sulfide, PCBs, and phenols should be specified. Components must add up to 100% including water, earth or other components.

(d) Hazards

C = corrosive
E = explosive
H = heavy metal
R = reactive
EP = EP toxic

O = oxidizer
F = flammable
X = biohazard/carcinogen
T = toxic

(e) Status (State all that apply)

F = full
MT = empty (<1 in.)
Rx = reacted
N = new (unused)
T = treated

PF = partially full
TR = triple-rinsed (empty drums)
O = old (expired)
S = spill material
R = recyclable condition, i.e., unopened, opened but in excellent condition, quality assured.

Figure 3-1. Chemical Disposal/Recycle Request Form.

Table 3-1. Typical Reference Materials.

1. Condensed Chemical Dictionary, 11th Ed., Hawley, 1987.
2. The Merck Index, 11th Edition, 1989.
3. Registry of Toxic Effects of Chemical Substances, U.S. Department of Health, Education, and Welfare. National Institute for Occupational Safety and Health.
4. The Sigma-Aldrich Library of Chemical Safety Data, 2nd Edition, R. E. Lenga, Ed., 1988.
5. NIOSH Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, 1985.
6. Handbook of Toxic and Hazardous Chemicals and Carcinogens, Second Edition, Marshall Sittig, Noyes Publications, Park Ridge, New Jersey, 1985.
7. A Method for Determining the Compatibility of Hazardous Wastes, EPA-600/2-80-076, U.S. Environmental Protection Agency, Cincinnati, Ohio, 1980.
8. CRC Handbook of Chemistry and Physics.

- Identify and verify specific morphological characteristics of waste in solid or solution form
- Outline how to safely handle, transport, analyze, store, and dispose of the waste product or sample.

Physical Analysis. Visual validation as a physical analysis procedure is strongly relied upon to confirm the nature of a waste collected or sampled, and to determine the accuracy of the disposal request information received from the generator. It is impractical for the waste management organization to chemically analyze each container or vial of waste accepted for storage in 305-B since the amount can exceed 10,000 per year. A more realistic approach to reducing risks to safety and the environment, and one implemented at 305-B, includes trained and experienced personnel performing a visual inspection of the waste and direct inquiry of the generator. The waste is inspected to verify that it matches the description on the disposal request. If the waste is a discarded product, the contents of the container are inspected to verify that they match the description of the product. For other wastes, e.g., spent solvents, waste descriptions are compared with the products in use at the generator's facility. Generators are queried concerning the source of the waste and the materials used in the process generating the waste. This information is compared to the description of the waste on the disposal request. If, after visual inspection of the waste and interrogation of the generator, any doubt remains as to the true identity of the waste, the waste is sampled and analyzed by the generator as described in Sections 3.2.1 through 3.2.6.

1 Waste Collection at the Generator Facility. When satisfactory information has
2 been obtained from the Request for Disposal/Recycle Form, waste management
3 organization staff visit the generator site and make a final inspection of the
4 waste containers to determine whether the disposal request form and contents
5 label information match completely. If the information on the disposal request
6 matches with the container labelling and visual inspection, the wastes are
7 approved for storage. If discrepancies are found, the generator is required to
8 resubmit the disposal request with accurate information. Unknown or unidentified
9 materials are sampled by the generator for identification of constituents and
10 remain at the generator site until the composition has been determined.
11 Generators must arrange for sampling and analysis of all unknown materials, as
12 described in Sections 3.2.1 through 3.2.6.

13
14 After inspection of the waste at the generator site, all identified wastes are
15 assigned a unique computer identification number and hazard classification. The
16 labeled wastes are then transported to 305-B by waste management organization
17 staff. Staff responsible for transporting wastes are trained in applicable DOT
18 requirements and emergency response. Wastes are transported using a truck or
19 light utility vehicle. For off-site transport (i.e., on roads accessible to the
20 public), the vehicles are marked with applicable DOT placards.

21
22 Waste Handling, Storage, and Tracking at 305-B. Wastes received at 305-B are put
23 into 12 separate hazard classifications based on building and fire code
24 restrictions for that type of facility:

- 25
26 1) Nonflammable RMW
27
28 2) Oxidizers
29
30 3) Acids, (organic and inorganic)
31
32 4) Poison
33
34 5) Caustics
35
36 6) Chlorinated solvents
37
38 7) Biohazardous (carcinogenic)
39
40 8) Miscellaneous (ORM categories)
41
42 9) Nonregulated/Washington State only waste (e.g., sodium chloride, sodium
43 bicarbonate)
44
45 10) Flammable liquids
46
47 11) Flammable RMW
48
49 12) Polychlorinated biphenyl (PCB) waste.
50

Each hazard class has a designated and clearly identified location within 305-B. Containers of dangerous waste (10 gal or less) are stored in a specific storage cabinet or shelf designed for that hazard class. The cabinets are located inside the appropriate storage cell (i.e., acid storage cabinet in acid cell). DOT-approved, bulk-sized containers (greater than 10 gal) for storage of large quantities of waste are segregated by hazard class on the main high bay floor in 305-B. Solid dangerous wastes are stored in storage bins on shelves inside the appropriate storage cell away from liquid wastes.

Only sealed DOT-approved containers of nonflammable RMW are received in the below-grade RMW storage area located in the basement of 305-B. Small containers of flammable RMW are stored above grade in the high bay area. All chemical storage is in accordance with fire protection requirements of the 1988 Uniform Fire Code (International Conference of Building Officials 1988).

Recordkeeping and Inventory Control. A computer tracking system, CHEMHAZ/HAZTRAK, has been developed to ensure that complete records of current inventory, packaging, and shipping data are maintained. Records are maintained of the initial waste disposal request form, waste analysis results if required, waste designation form, and shipping manifest. These records are filed, cross-referenced, and transcribed into the computer data base management system. As each waste is received, it is labeled with a unique computer identification number, generator identification, date, and applicable hazard(s). The same identification number for each item is written on the disposal request form and these data are entered into the computer data base management system, along with the storage location (facility and cell). The endpoint of the process is proper packaging and transport of the waste to an approved disposal facility. Final computer verification of the history of each waste container is entered at the time of shipping the manifested waste offsite.

Current waste quantities in inventory are checked weekly and reported to the facility operator, and monthly to the waste management organization manager as a part of the month-ending operation report. The inventory is checked by hazard class and provides a measure of current inventory versus established limits.

If it is determined that 305-B inventory is approaching the limit for a given hazard classification, additional waste of that hazard class is not accepted into 305-B until the inventory has been reduced. In this instance, the generator may be required to store the waste at the generator facility until shipment to an offsite facility can be arranged (<90 days).

Unknown Wastes and Waste Constituent Verification. Containers with unknown waste compositions are not accepted at 305-B. In the event that 305-B staff are required to respond to a critical need of a generator in the future and pick up an unknown waste, it will be sampled and analyzed as described in Sections 3.2.1 through 3.2.6.

If, for any reason, 305-B personnel believe that more stringent analysis of non-reagent grade chemical wastes is needed (i.e., flash cans and mixtures), they will request that the generator have the wastes analyzed by an approved analytical laboratory. Reasons for this request may be questionable appearance of the waste, desire for periodic confirmation of waste composition, or historically unreliable information from a particular generator. There is no

established frequency for this sampling and analysis; it is conducted on an as-needed basis. This analysis must be performed in accordance with EPA SW-846 procedures (EPA 1986). Analytical laboratories in the area with these capabilities include U.S. Testing (UST), Hanford Environmental Health Foundation (HEHF), PNL, and Battelle Northwest private laboratories. The generator must also provide the laboratory analysis confirming the waste composition when the waste management organization picks up the waste. This analysis will become part of the 305-B Operating Record.

3.2.1 Parameters and Rationale [C-2a]

Waste testing parameters and the rationale for these parameters are summarized in Table 3-2. Testing parameters for each type of unknown waste were selected to obtain data sufficient to properly designate the waste under WAC 173-303-070 and to properly manage the wastes. If limited information on the source of the waste is available, all of the parameters may not be required. For example, if waste oil is known to be from an area where no PCB is present, testing for PCB may not be performed.

3.2.2 Test Methods [C-2b]

Waste testing methods and references to these methods are summarized in Table 3-2. All methods are specified in Chemical Testing Methods, WDOE 83-13 (Ecology 1983) and/or Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA SW-846 (EPA 1986).

3.2.3 Sampling Methods [C-2c]

Most of the wastes likely to require testing are liquid wastes. Representative samples of liquid wastes from large containers (i.e., 30 gal or larger) will be obtained using a composite liquid waste sampler (COLIWASA), as specified in SW-846 (EPA 1986). Because of the difficulty in using a COLIWASA with small containers, these containers will be sampled using a pipette. If a liquid waste has more than one phase, each phase will be separated for individual testing and designation.

Other waste types which may require sampling are sludges, powders, and granules. Sludges will be sampled using a trier, as specified in SW-846 (EPA 1986). Dry powders will be sampled using a thief, also as specified in SW-846 (EPA 1986).

Samplers will be constructed of material compatible with the wastes. In general, aqueous liquids will be sampled using polyethylene samplers, organic liquids using glass samplers, and solids using polyethylene samplers. Disposable samplers will be used to eliminate the potential for cross-contamination.

The number of samples collected will depend on the amount of waste present and on the heterogeneity of the waste as determined by observation. In most cases, there will be only one container of waste present. In such cases, only one vertical composite sample will be collected (e.g., COLIWASA). If more than one container is present, a random number of samples will be collected and analyzed statistically using the procedures specified in Section 9.2 of SW-846 (EPA 1986).

Table 3-2. Summary of Test Parameters, Rationales, and Methods.

<u>Waste Type</u>	<u>Parameter</u>	<u>Rationale</u>	<u>Test Method</u>	<u>Test Reference</u>
Spent halogenated solvent mixtures	Halogenated hydrocarbon content	Persistent dangerous waste per WAC 173-303-084(6)	WDOE persistence testing	Chemical testing methods, WDOE 83-13 Appendix E and F
	Flash point	Ignitable waste per WAC 173-303-090(5); Flammable waste storage limits	Pensky-Martens closed cup	ASTM D-93-79 ASTM D-93-80
			Setaflash closed cup	ASTM D-3278-78
	Halogenated organic compounds	Land disposal restrictions for solvent and California List wastes	TCLP leachate	40 CFR 268, App. I
			Volatile organic compounds by GC/MS ¹	EPA 8240
			Semivolatile organic compounds by GC/MS	EPA 8250
Spent nonhalogenated solvent mixtures	Flash point	Ignitable waste per WAC 173-303-090(5); Flammable waste storage limits per UFC	TCLP leachate	40 CFR 268, App. I
			PCBs by GC ²	EPA 8080
			Pensky-Martens closed cup	ASTM D-93-79 ASTM D-93-80
			Setaflash closed cup	ASTM D-3278-78

9 0 1 1 7 0 1 0 2 0 5

Table 3-2. (Cont'd).

<u>Waste Type</u>	<u>Parameter</u>	<u>Rationale</u>	<u>Test Method</u>	<u>Test Reference</u>
Spent nonhalogenated solvent mixtures (continued)	PCB content	Land disposal restrictions for California List wastes	TCLP Leachate	40 CFR 268, App. I
			PCBs by GC	EPA 8080
Waste oils	Flash point	Ignitable waste per WAC 173-303-090(5); Flammable waste storage limits; Flammable waste oil subject to requirements under WAC 173-303-515 when burned for energy recovery	Pensky-Martens closed cup	ASTM D-93-79 ASTM D-93-80
			Setaflash closed cup	ASTM D-3278-78
	PCB content	PCB contaminated wastes with less than 50 ppm PCB may be listed under WAC 173-303-9904; Waste oil with greater than 2 ppm PCB subject to requirements under WAC 173-303-515 when burned for energy recovery	PCBs by GC	EPA 8080

Table 3-2. (Cont'd).

<u>Waste Type</u>	<u>Parameter</u>	<u>Rationale</u>	<u>Test Method</u>	<u>Test Reference</u>
Waste oils (continued)	EP toxicity	EP toxic characteristic waste per WAC 173-303-090(8); Waste oil with elevated levels of As, Cd, Cr, Pb subject to requirements under WAC 173-303-515 when burned for energy recovery	EP metals by AA ³	Chemical testing methods, WDOE 83-13 Appendix D
	Halogenated hydrocarbon content	Persistent dangerous waste per WAC 173-303-084(6); Waste oil with elevated halogens subject to WAC 173-303-510 or -515 when burned for energy recovery	WDOE persistence testing	Chemical testing methods, WDOE 83-13 Appendix E and F
Aqueous waste	Corrosivity	Corrosive characteristic waste per WAC 173-303-090(6), Land disposal restrictions for California List wastes	pH measurement; steel corrosion rate	Chemical testing methods, WDOE 83-13 Appendix B

9 0 1 1 7 3 1 0 2 0 7

Table 3-2. (Cont'd).

<u>Waste Type</u>	<u>Parameter</u>	<u>Rationale</u>	<u>Test Method</u>	<u>Test Reference</u>
Aqueous waste (continued)	Reactivity	Reactive characteristic waste per WAC 173-303-090(7)	Sulfide - iodometric	EPA 9030
			Cyanide - colorometric	EPA 9010
	EP toxicity	EP toxic characteristic waste per WAC 173-303-090(8), Land disposal restrictions for California List wastes	EP metals by AA Pesticides by GC	Chemical testing methods, WDOE 83-13 Appendix D
	Toxicity	Toxic waste mixtures per WAC 173-303-084(5)	Metals by ICP	EPA 6010
			Volatile organic compounds by GC/MS	EPA 8240
			Semivolatile organic compounds by GC/MS	EPA 8270
			Toxicity tests	Biological testing methods, WDOE 80-12
Organic waste	Flash point	Ignitable waste per WAC 173-303-090(5); Flammable waste storage limits	Pensky-Martens closed cup	ASTM D-93-79 ASTM D-93-80
			Setaflash closed cup	ASTM D-3278-78

Table 3-2. (Cont'd).

<u>Waste Type</u>	<u>Parameter</u>	<u>Rationale</u>	<u>Test Method</u>	<u>Test Reference</u>
Organic waste (continued)	Toxicity	Toxic waste mixtures per WAC 173-303-084(5)	Volatile organic compounds by GC/MS	EPA 8240
			Semivolatile organic compounds by GC/MS	EPA 8270
			Toxicity tests	Biological testing methods, WDOE 80-12
	Halogenated hydrocarbon content	Persistent dangerous waste per WAC 173-303-084(6)	WDOE persistence testing	Chemical testing methods, WDOE 83-13 Appendix E and F
	Polycyclic aromatic hydrocarbon content	Persistent dangerous waste per WAC 173-303-084(6)	WDOE persistence testing	Chemical testing methods, WDOE 83-13 Appendix E and G
	PCB content	PCB contaminated wastes with less than 50 ppm PCB may be listed under WAC 173-303-9904	PCBs by GC	EPA 8080
	Halogenated organic compounds	Land disposal restrictions for solvent and California List wastes	TCLP leachate	40 CFR 268, App. I
			Volatile organic compounds by GC/MS	EPA 8240
			Semivolatile organic compounds by GC/MS	EPA 8250

7 0 1 1 7 8 1 0 2 0 3

Table 3-2. (Cont'd).

<u>Waste Type</u>	<u>Parameter</u>	<u>Rationale</u>	<u>Test Method</u>	<u>Test Reference</u>
Organic waste (continued)	Free liquids	Land disposal restrictions for liquid wastes	Paint filter test	EPA 9095
Unknown solid waste	Corrosivity	Corrosive characteristic waste per WAC 173-303-090(6)	pH measurement	Chemical testing methods, WDOE 83-13 Appendix B
	Reactivity	Reactive characteristic waste per WAC 173-303-090(7)	Impact apparatus	Chemical Testing Methods, WDOE 83-13 Appendix C Attachment 1
	EP toxicity	EP toxic characteristic waste per WAC 173-303-090(8)	EP metals by AA Pesticides by GC	Chemical testing methods, WDOE 83-13 Appendix D
	Toxicity	Toxic waste mixtures per WAC 173-303-084(5)	Metals by ICP	EPA 6010
			Volatile organic compounds by GC/MS	EPA 8240
			Semivolatile organic compounds by GC/MS	EPA 8270
			Toxicity tests	Biological testing methods, WDOE 80-12

Table 3-2. (Cont'd).

<u>Waste Type</u>	<u>Parameter</u>	<u>Rationale</u>	<u>Test Method</u>	<u>Test Reference</u>
Unknown solid waste (continued)	PCB content	PCB contaminated wastes with less than 50 ppm PCB may be listed under WAC 173-303-9904	PCBs by GC	EPA 8080
	Halogenated organic compounds	Land disposal restrictions for solvent and California List wastes	TCLP leachate	40 CFR 268, App. I
			Volatile organic compounds by GC/MS	EPA 8240
			Semivolatile organic compounds by GC/MS	EPA 8250
	Free liquids	Land disposal restrictions for liquid wastes	Paint filter test	EPA 9095

Notes:

¹GC/MS - Gas Chromatography/Mass Spectroscopy

²GC - Gas Chromatography

³AA - Atomic Absorption

⁴ICP - Inductively Coupled Plasma Emission Spectroscopy

3.2.4 Frequency of Analyses [C-2d]

Dangerous waste types listed in Table 3-2 are sampled as needed on an individual container or batch basis before they are collected from the point of generation or prior to shipment offsite. After the dangerous constituents have been characterized, these waste streams will not be analyzed again until process or raw material changes occur.

3.2.5 Additional Requirements for Waste Generated Offsite [C-2e]

All wastes stored at 305-B are generated on the Hanford Site and/or by PNL research programs; in fact, the majority of the wastes stored in the facility are generated within the 300 Area. Additional requirements for wastes generated outside the 300 Area include proper manifesting (if appropriate) to 305-B and proper packaging for transport over public roadways. Although wastes generated outside of the 300 Area may be considered to be generated offsite since they are transported to 305-B on roads accessible to the public, they are under the same administrative controls as wastes which are generated onsite (i.e., in the 300 Area). There are no additional requirements, therefore, for wastes generated offsite.

3.2.6 Additional Requirements for Ignitable, Reactive, or Incompatible Wastes [C-2f]

As described in Section 2.1, wastes stored at 305-B are divided into DOT hazard classes and stored in separate locations to assure compatibility. The testing parameters identified in Table 3-2 are sufficient to properly identify the hazard class of unknown wastes and assure proper separation of incompatible wastes. The parameters in Table 3-2 are also appropriate to identify ignitable wastes to ensure that these wastes are stored in appropriate locations. The test parameters will also allow identification of those ignitable wastes which are also flammable wastes (i.e., flash point less than 100°F or 38°C). Identification of flammable wastes is necessary since there are restrictions on the amount of flammable liquids that can be stored in 305-B.

1
2
3
4
5

This page intentionally left blank.

CONTENTS

4.0	PROCESS INFORMATION [D]	4-1
4.1	CONTAINERS [D-1]	4-1
4.1.1	Containers With Free Liquids [D-1a]	4-1
4.1.1.1	Description of Containers [D-1a(1)]	4-1
4.1.1.2	Container Management Practices [D-1a(2)]	4-1
4.1.1.3	Secondary Containment System Design and Operation [D-1a(3)]	4-2
4.1.1.4	Requirement for Base or Liner to Contain Liquids [D-1a(4)]	4-2
4.1.1.5	Containment System Drainage [D-1a(5)]	4-2
4.1.1.6	Containment System Capacity [D-1a(6)]	4-2
4.1.1.7	Control of Run-On [D-1a(7)]	4-4
4.1.1.8	Removal of Liquids from Containment System [D-1a(8)]	4-4
4.1.2	Containers Without Free Liquid That Do Not Exhibit Ignitability or Reactivity [D-1b]	4-4
4.2	PROTECTION OF EXTREMELY HAZARDOUS WASTE IN CONTAINERS [D-2]	4-4
4.3	PREVENTION OF REACTION OF IGNITABLE, REACTIVE, AND INCOMPATIBLE WASTES IN CONTAINERS [D-3]	4-4
4.3.1	Management of Ignitable or Reactive Wastes in Containers [D-3a]	4-4
4.3.2	Management of Incompatible Wastes in Containers [D-3b]	4-4
4.3.3	Tank System [D-3c]	4-6
4.3.4	Waste Piles [D-3d]	4-6
4.3.5	Surface Impoundments [D-3e]	4-6
4.3.6	Incinerators [D-3f]	4-6
4.3.7	Landfills [D-3g]	4-6
4.3.8	Land Treatment [D-3h]	4-6

FIGURES

4-1.	Layout of Waste Storage Locations in 305-B Storage Facility.	4-3
4-2.	Layout of Waste Storage Cabinets and Shelves Within Storage Cells.	4-5

This page intentionally left blank.

2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884
885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941
942
943
944
945
946
947
948
949
950
951
952
953
954
955
956
957
958
959
960
961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978
979
980
981
982
983
984
985
986
987
988
989
990
991
992
993
994
995
996
997
998
999
1000

4.0 PROCESS INFORMATION [D]

4.1 CONTAINERS [D-1]

The following sections describe the types of containers stored at the 305-B Storage Facility.

4.1.1 Containers With Free Liquids [D-1a]

Containers with free liquids are discussed below.

4.1.1.1 Description of Containers [D-1a(1)]. Most wastes stored at the 305-B Storage Facility are received in their original as-procured containers. Containers of dangerous materials entering the 305-B are inspected before being accepted for storage at the facility. Containers found to be in poor condition or inadequate for storage are not accepted at the 305-B facility. The generator is responsible for placing the materials in adequate containers. Materials must be transferred to containers that are new, and that are compatible with the materials placed inside them. Containers are selected using DOT specifications as described below in this section. Upon transfer of dangerous wastes from one container to another, a label is affixed to the container or it is marked with a permanent marker to describe the contents of the container, as well as the major hazards associated with the waste. The unique identifying number assigned by the computer waste tracking system for that waste is placed on the new container.

All flammable liquid wastes are stored in compatible DOT-specified shipping containers in Underwriter's Laboratory (UL)-listed and Fire Marshall (FM)-approved flammable storage cabinets. Solid chemicals are stored on shelving in specifically designated areas based on the DOT hazard classification.

All shipping containers for dangerous materials are DOT-specified and approved for packaging according to 49 CFR 172.101, Hazardous Materials Table and 49 CFR 178, Shipping Containers.

4.1.1.2 Container Management Practices [D-1a(2)]. Several container management practices have been established at the 305-B Storage Facility to ensure the safe storing/transferring of dangerous waste at the facility. A system of daily, weekly, monthly, and yearly inspections is conducted to inspect container integrity, location, etc. These inspection procedures are detailed in Section 6.2.

In addition to the inspections, facility staff are trained in proper container handling safeguards. For example, employees are instructed to open all high-vapor pressure liquids in the ventilated hood. Chemical transfers, such as bulking, are completed with adequate ventilation (i.e., in the ventilation hood or near the elephant-trunk ventilator). The only exception to this rule is during an emergency situation. In the event of an emergency, such as an emergency response action, air-purifying respirators or Self-Contained Breathing Apparatus (SCBA) will be used if necessary to ensure adequate ventilation. Containers are always kept closed, except when adding or removing waste. Great care is taken to guarantee that handling occurs in such a manner as to minimize or prevent container rupturing or leaking.

1 Glass containers which have been emptied (as defined by WAC 173-303-160(2)) as a
2 result of bulking activities at 305-B are destroyed onsite by an electric glass
3 crusher which mounts on a 55 gal drum. If an emptied glass container held
4 acutely hazardous waste, as defined by WAC 173-303-040(2), the container is
5 rinsed at least three times with an appropriate cleaner or solvent prior to being
6 destroyed. The rinsing agent is then disposed of as dangerous waste. Crushed
7 glass is disposed of at the Hanford Central Landfill.

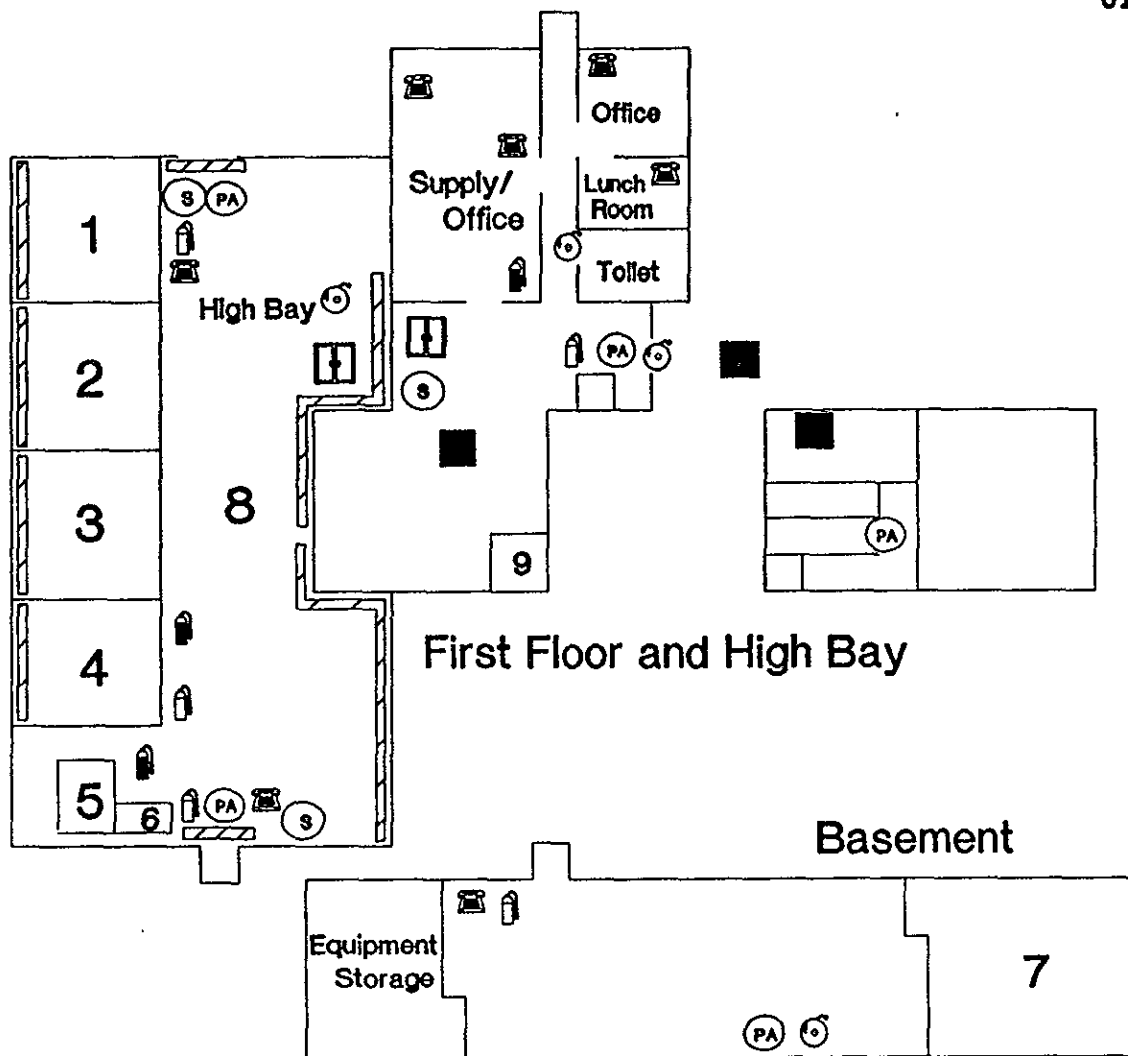
8
9 **4.1.1.3 Secondary Containment System Design and Operation [D-1a(3)].** Several
10 design features have been engineered into the construction of the 305-B Storage
11 Facility as added safeguards for containment of dangerous waste spills or leaks.
12 Design drawings for 305-B are included in Appendix 4A. The following subsections
13 comment briefly on each of the design features.

14
15 **4.1.1.4 Requirement for Base or Liner to Contain Liquids [D-1a(4)].** The base
16 of the facility consists of a 6-in. reinforced, poured concrete slab with no
17 cracks or gaps. The concrete was mixed in accordance with ASTM 094, Section 5.3,
18 Alternate 2, and all exposed surfaces were finished with a smooth trowelled
19 surface. Expansion joint material is Sonneborn "Sonoflex FTM" polyethylene
20 filler. The bonding compound used at the expansion joints was Sonneborn
21 "SonobondTM" two-part epoxy. All edges and corners were sealed with a continuous
22 bead of polysulfide sealant. Finally, the entire concrete base was covered with
23 a chemically resistant sealant paint.

24
25 **4.1.1.5 Containment System Drainage [D-1a(5)].** The concrete floors in each of
26 the storage cells, loading bay, and ventilation hood area are completely bermed
27 and canted toward individual sumps to eliminate the possibility of spills
28 interacting or migrating offsite. Wastes stored in the separate storage cells
29 may not be compatible with wastes in other cells, therefore, each storage cell
30 has its own independent collecting sump in order to prevent potential interaction
31 of simultaneous spills.

32
33 **4.1.1.6 Containment System Capacity [D-1a(6)].** Individual storage cells on the
34 ground level of the facility and the cabinets for liquid wastes provide enough
35 containment capacity to contain spills or leaks of at least 10% of the entire
36 inventory of liquid wastes in the cabinet, or 100% of the largest container. In
37 addition, the storage facility also provides floor drainage control of liquid
38 spills into the individually isolated sumps in each cell. Cells, cabinets, and
39 sumps are shown in Figure 4-1. Individual cell secondary containment volumes
40 equal 774, 782, 764, and 687 gal respectively for cells 1 through 4. Secondary
41 containment for high bay room storage equals 603 gal. The floor of each storage
42 cell is sloped toward the sump. No drains are connected to these sumps. The
43 floor is free of gaps and cracks; spilled material can be removed from the sumps
44 with hand pumps (kept at 305-B) or absorbed with absorbent material and removed
45 with a shovel (also both kept at 305-B).

46
47 The nonflammable RMW storage cell in the basement of 305-B is also sealed and
48 contains no drains. The entrance to the cell incorporates a 3-in. lip to provide
49 a total secondary containment of 1,246 gal.
50



LEGEND

- | | |
|---------------------------------|--------------------------------------|
| 1 Acids, Oxidizers | (S) Safety Shower/Eyewash |
| 2 Poisons, ORM | Phone |
| 3 Caustics, Non-regulated, WSDW | (bell icon) Fire Alarm Bell |
| 4 Hydrocarbons | (PA) Fire Alarm Pull Box |
| 5 Liquid Bulking Module | 14 lb Halon Fire Extinguisher |
| 6 Asbestos Cabinet | 10 lb ABC Fire Extinguisher |
| 7 RMW Storage Cell | Removable Access to Basement |
| 8 High Bay Floor Storage | Emergency Equipment Cabinet |
| 9 Small Quantity Flammable RMW | (hatched rectangle) Collection Sumps |

Figure 4-1. Layout of Waste Storage Locations in 305-B Storage Facility.

4.1.1.7 Control of Run-On [D-1a(7)]. The 305-B Storage Facility was designed to eliminate the likelihood of on-site, or for that matter, off-site migration via run-on and run-off. The facility is completely enclosed (i.e., complete roof and no open walls) and has been constructed upon a foundation so that precipitation cannot cause either run-on or run-off problems.

4.1.1.8 Removal of Liquids from Containment System [D-1a(8)]. Liquids which reach the storage cell sumps as a result of a spill or leak will be immediately pumped into approved storage containers. On-site hand pumps will be used to pump the spilled waste from the sump to the container. Once proper analysis has been completed, the disposal process will begin and efforts will be initiated for permanent disposal. Absorbent material will be used to completely absorb any standing or residual waste. Shovels will then be used to dispose of the used absorbent to disposal containers. All affected areas and equipment will be decontaminated as described in Section 7.4.4.

4.1.2 Containers Without Free Liquid That Do Not Exhibit Ignitability or Reactivity [D-1b].

This section is not applicable to 305-B because the storage area is used to store containers both with and without free liquids. 305-B does not meet the conditions for reduced requirements for storing only containers without free liquid; therefore, the facility is subject to the full requirements for containment.

4.2 PROTECTION OF EXTREMELY HAZARDOUS WASTE IN CONTAINERS [D-2]

All containers are in storage cells at the 305-B Storage Facility. These cells are completely enclosed from the weather (see Section 4.1.1.7).

4.3 PREVENTION OF REACTION OF IGNITABLE, REACTIVE, AND INCOMPATIBLE WASTES IN CONTAINERS [D-3]

The following sections provide information on the management of ignitable, reactive, and incompatible waste in containers. Additional information on this subject can be found in Section 6.5

4.3.1 Management of Ignitable or Reactive Wastes in Containers [D-3a]

Ignitable and reactive wastes are stored in compliance with Uniform Fire Code Division II regulations for Container and Portable Tank Storage Inside Buildings (International Conference of Building Officials 1988). Containers of ignitable and reactive waste are stored in individual flammable material storage cabinets within the storage cells, as shown in Figure 4-2.

4.3.2 Management of Incompatible Wastes in Containers [D-3b]

Section 6.5.2 describes procedures used at 305-B to determine the compatibility class of wastes and ensure that incompatible wastes are not stored together. Chemical wastes stored in 305-B are separated by compatibility and hazard class and stored in one of four separate storage cells. These storage cells contain

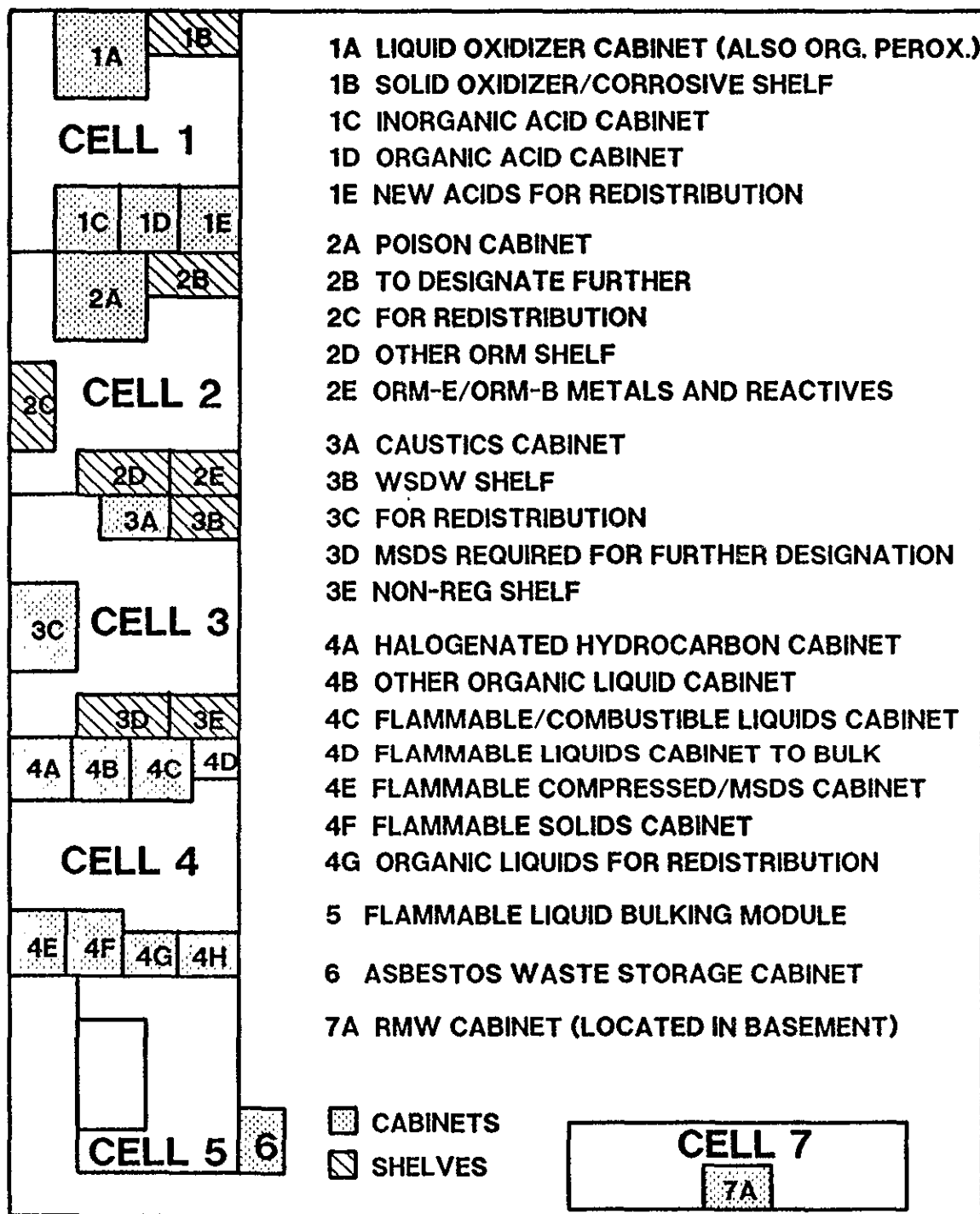


Figure 4-2. Layout of Waste Storage Cabinets and Shelves Within Storage Cells.

1 acids and oxidizers; poisons and ORM-E materials; caustics, nonregulated
2 materials, and Washington State dangerous wastes; and chlorinated and
3 nonchlorinated hydrocarbons, as shown in Figure 4-1. Cells are separated by 4-ft
4 high coated-concrete walls and have sloped floors which drain to separated
5 containment sumps. As shown in Figure 4-2, separate storage cabinets and shelves
6 exist within the storage cells for further segregation of wastes. Incompatible
7 wastes are never placed in the same container, or in unwashed containers that
8 previously held incompatible waste.

9
10 Compliance with WAC 173-303-395(1)(b) is ensured by use of reactivity groupings
11 given in A Method for Determining the Compatibility of Hazardous Waste (EPA
12 1980). Use of this system is described in "Procedures for hazardous waste and
13 radioactive mixed waste management and disposal at the Pacific Northwest
14 Laboratory." This procedure is part of the 305-B Operating Record, as required
15 by WAC 173-303-395(1)(c).

16 17 4.3.3 Tank System [D-3c]

18
19 This section is not applicable to the 305-B Storage Facility because wastes are
20 not managed in tanks.

21 22 4.3.4 Waste Piles [D-3d]

23
24 This section is not applicable to the 305-B Storage Facility because wastes are
25 not managed in waste piles.

26 27 4.3.5 Surface Impoundments [D-3e]

28
29 This section is not applicable to the 305-B Storage Facility because wastes are
30 not placed in surface impoundments.

31 32 4.3.6 Incinerators [D-3f]

33
34 This section is not applicable to the 305-B Storage Facility because wastes are
35 not incinerated.

36 37 4.3.7 Landfills [D-3g]

38
39 This section is not applicable to the 305-B Storage Facility because wastes are
40 not placed in landfills.

41 42 4.3.8 Land Treatment [D-3h]

43
44 This section is not applicable to the 305-B Storage Facility because wastes are
45 not treated in land treatment units.
46

CONTENTS

5.0 GROUNDWATER MONITORING [E] 5-1

90117310221

This page intentionally left blank.

20010223

5.0 GROUNDWATER MONITORING [E]

Groundwater monitoring requirements are not applicable to the 305-B Storage Facility. WAC 173-303-645(1) requires groundwater monitoring for all dangerous waste units which treat, store, or dispose of dangerous wastes in surface impoundments, waste piles, land treatment units, or landfills. Because 305-B is only used for storage of dangerous and mixed wastes in containers, groundwater monitoring is not required.

CONTENTS

6.0	PROCEDURES TO PREVENT HAZARDS [F]	6-1
6.1	SECURITY [F-1]	6-1
6.1.1	Security Procedures and Equipment [F-1a]	6-1
6.1.1.1	24-Hour Surveillance System [F-1a(1)]	6-1
6.1.1.2	Barrier and Means to Control Entry [F-1a(2)(a), (2)(b)]	6-3
6.1.1.3	Warning Signs [F-1a(3)]	6-3
6.1.2	Waiver [F-1b(1), (2)]	6-3
6.2	INSPECTION SCHEDULE [F-2]	6-3
6.2.1	General Inspection Requirements [F-2a]	6-3
6.2.1.1	Types of Problems [F-2a(1)]	6-3
6.2.1.2	Frequency of Inspections [F-2a(2)]	6-7
6.2.2	Specific Process Inspection Requirements [F-2b]	6-8
6.2.2.1	Container Inspection [F-2b(1)]	6-8
6.2.2.2	Tank Inspection [F-2b(2)]	6-8
6.2.2.3	Waste Pile Inspection [F-2b(3)]	6-8
6.2.2.4	Surface Impoundment Inspection [F-2b(4)]	6-8
6.2.2.5	Incinerator Inspection [F-2b(5)]	6-8
6.2.2.6	Landfill Inspection [F-2b(6)]	6-8
6.2.2.7	Land Treatment Facility Inspection [F-2b(7)]	6-8
6.3	WAIVER OR DOCUMENTATION OF PREPAREDNESS AND PREVENTION REQUIREMENTS [F-3]	6-8
6.3.1	Equipment Requirements [F-3a]	6-8
6.3.1.1	Internal Communications [F-3a(1)]	6-8
6.3.1.2	External Communications [F-3a(2)]	6-9
6.3.1.3	Emergency Equipment [F-3a(3)]	6-9
6.3.1.4	Water for Fire Control [F-3a(4)]	6-10
6.3.2	Aisle Space Requirements [F-3b]	6-13
6.4	PREVENTIVE PROCEDURES, STRUCTURES, AND EQUIPMENT [F-4]	6-13
6.4.1	Unloading Operations [F-4a]	6-13
6.4.2	Run-Off [F-4b]	6-14
6.4.3	Water Supplies [F-4c]	6-14
6.4.4	Equipment and Power Failure [F-4d]	6-14
6.4.5	Personnel Protection Equipment [F-4e]	6-14
6.5	PREVENTION OF REACTION OF IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTES [F-5]	6-15
6.5.1	Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Waste [F-5a]	6-15
6.5.2	General Precautions for Handling Ignitable or Reactive Waste and Mixing of Incompatible Waste [F-5b]	6-16

FIGURES

6-1.	Normal Site Access - Entrance at the Southern End of Wisconsin Avenue and the North End of the 300 Area	6-2
6-2.	Weekly Inspection Checklist Form	6-5
6-3.	Monthly Inspection Checklist Form	6-6
6-4.	305-B Storage Facility Building Plan and Locations of Emergency Equipment	6-11
6-5.	Layout of Waste Storage Cabinets and Shelves Within Storage Cells.	6-18

TABLES

6-1.	Emergency Signals and Responses	6-10
6-2.	Material and Equipment for Spill Containment and Cleanup	6-12
6-3.	Uniform Fire Code Storage Restrictions.	6-17

6.0 PROCEDURES TO PREVENT HAZARDS [F]

The 305-B Storage Facility is operated to minimize exposure of the general public and operating personnel to dangerous and mixed wastes.

6.1 SECURITY [F-1]

Security for 305-B is provided by a combination of the overall security system for the 300 Area, and a specific security system for the waste storage facility. The former controls access to the 300 Area proper, while the latter controls access to 305-B.

The 305-B Storage Facility is located within the Hanford 300 Area. As part of the Hanford Site, the 300 Area is subject to a restricted access and personnel security system for the protection of Government property, classified information, and special nuclear materials. The 300 Area is a controlled access area with access limited to persons authorized to enter and having appropriate security clearances or escorts.

The security program for 305-B, in addition to 300 Area access, is designed to limit building access to those personnel within the 300 Area authorized to enter the facility. Access to 305-B can be gained through five walk-in doors, two of which are large roll up doors to facilitate loading and unloading activities. All of the doors to 305-B are kept locked at all times. All requests for keys are reviewed and approved by the facility operating supervisor and the building manager, and a record of those personnel issued keys are kept in the Operating Record at all times.

Specific aspects of the security programs for both the 300 Area and 305-B Storage Facility are described in more detail below.

6.1.1 Security Procedures and Equipment [F-1a]

The following sections describe the 24-hour surveillance system, barrier, and warning signs used to provide security and control access to the 305-B Storage Facility.

6.1.1.1 24-Hour Surveillance System [F-1a(1)]. Access to that portion of the 300 Area in which 305-B is located is through a gate at the south end of Wisconsin Avenue and a gate at the north end of the 300 Area (Fig. 6-1). These gates are controlled by Hanford Patrol guards on a 24-hour basis. The Hanford Patrol can be reached by phoning 375-2400, PNL Single-Point Contact. If 375-2400 is inoperative, the Hanford Patrol can be reached via their emergency number, 811.

The 305-B facility does not maintain a 24-hour surveillance system. All entrances to the building are locked at all times to prevent unauthorized access. Periodic surveillance is performed by the Hanford Patrol during non-working hours to ensure that entrances are locked and that no unauthorized access has occurred.

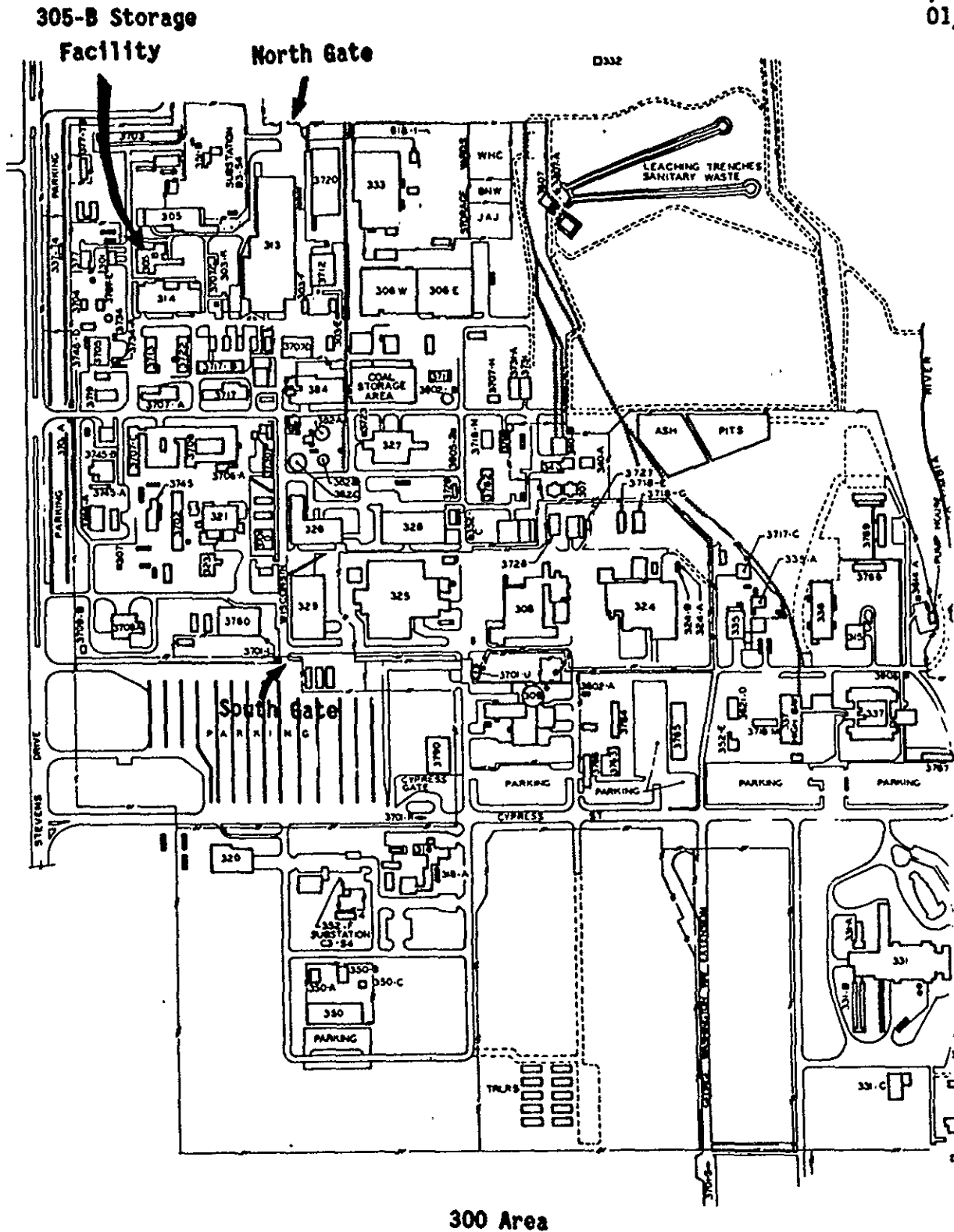


Figure 6-1. Normal Site Access - Entrance at the Southern End of Wisconsin Avenue and the North End of the 300 Area.

1 6.1.1.2 Barrier and Means to Control Entry [F-1a(2)(a), (2)(b)]. The entire 300
2 Area is surrounded by an 8-ft chain link fence topped with three strands of
3 barbed wire. There is no separate fence surrounding the 305-B facility. All
4 waste management activities, however, are conducted within the facility. The
5 facility itself, therefore, provides a barrier completely surrounding the active
6 waste management operations.
7

8 Entry to 305-B is first controlled at the Wisconsin Avenue Gate to the 300 Area
9 and the north 300 Area gate. To be admitted by Hanford Patrol guards through the
10 gates, all persons must have a valid DOE security badge or a temporary badge and
11 be escorted by a person having an escort badge. Entry to the facility is then
12 controlled through the use of locked entrances. The 305-B Storage Facility is
13 kept locked at all times. Physical control of keys and records of key
14 distributions are maintained by PNL Security. Distribution of keys to 305-B is
15 subject to approval by the manager of the waste management organization, the
16 building manager, and the facility operating supervisor, and a list of those
17 personnel in possession of keys is kept in the Operating Record for 305-B.
18 Personnel in possession of keys have been instructed to admit only persons having
19 official business. All visitors to the facility must be escorted by waste
20 management organization personnel.
21

22 6.1.1.3 Warning Signs [F-1a(3)]. The 305-B Storage Facility is posted with
23 "DANGER - UNAUTHORIZED PERSONNEL KEEP OUT" and "305-B CHEMICAL WASTE STORAGE
24 BUILDING" signs near each entrance on all sides of the facility. The signs are
25 clearly visible from the required distance of 25 ft.
26

27 6.1.2 Waiver [F-1b(1), (2)]

28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
Waivers of the security procedures and equipment requirements for 305-B are not
required and will not be requested.

6.2 INSPECTION SCHEDULE [F-2]

The purpose and intent of implementing inspection procedures at 305-B is to
prevent malfunctions, deterioration, operator errors, and/or discharges which may
cause or lead to the release of regulated waste to the environment or threats to
human health. A system of daily, weekly, monthly, quarterly, and annual
inspections involving various PNL departments and levels of management is
implemented at 305-B.

6.2.1 General Inspection Requirements [F-2a]

The content and frequency of inspections performed at 305-B are described in this
section. Also described is maintenance of inspection records.

6.2.1.1 Types of Problems [F-2a(1)]. Daily, weekly, monthly, quarterly, and
annual inspections are performed at 305-B. The types of problems addressed by
each of these inspections is described below.

Daily Inspections. The 305-B Storage Facility is inspected daily when waste
packaging, transfer, shipping, or movement operations are being carried out.
Inspection efforts are focused on the loading bay, storage compartments, walk-in

hood area, and other areas in which the wastes are handled. Specific problems looked for in these inspections are damaged or leaky containers, mislabeled or unclosed containers, improper storage cell designation, and disorderliness/uncleanliness. These daily inspections are recorded in the daily operating logbook, which is part of the permanent 305-B Operating Record.

Weekly Inspections. Waste management organization personnel conduct weekly inspections of both safety and operating equipment in 305-B. Safety and emergency equipment are inspected for functionality and adequacy of supply. The weekly inspection is conducted by two personnel on the last workday of each week using the Weekly Inspection Checklist Form (Fig. 6-2) and Inspection Logbook. The Inspection Checklist and Inspection Logbook become a permanent part of the 305-B Operating Record.

Specific problems to be looked for with each of the items inspected are identified on the Inspection Checklist Form. The use of this form enhances inspection effectiveness by providing a consistent and detailed listing of areas of potential problems and those safeguards in place to prevent them. There is space provided on the form for the inventory summary, comments, required remedial actions (if any), as well as the date such actions are accomplished. The inspector is required to sign and date the inspection checklist after performing the inspection. In addition, a space is provided for the initials and date of the co-inspector. A copy of the completed inspection form with any assigned action items is distributed to the responsible operating personnel. All corrective actions required must be completed within one week of the inspection which found them deficient, unless there is documentation and reason for further delay. When corrective action has been completed, the inspector dates and initials the form.

Monthly Inspections. Monthly oversight inspections are conducted by the manager of the waste management organization or his designee. This monthly inspection is conducted on or near the last workday of each month using the Monthly Inspection Checklist Form (Fig. 6-3). Items targeted for monthly inspection include, but are not limited to, equipment function and condition, housekeeping, chemical inventory, weekly inspections and corresponding corrective actions, safety equipment operation, spill control and cleanup supplies, and general packaging material inventory. Specific problems to be looked for with each of the items inspected are identified on the Inspection Checklist Form. An internal memorandum from the manager of the waste management organization to the Laboratory Safety Department manager reports the findings of the monthly inspections. Copies of the inspection report memorandum are provided to operations personnel and maintained in the files of the waste management organization. Any corrective action noted on the management inspection checklist or deterioration or malfunctions in equipment discovered by the inspector are delegated to responsible individuals in the operations group. Corrective actions identified in the monthly management inspection must be completed within two weeks unless there is documentation and reason for further delay. Monthly management inspection report memos and corrective action response documentation are part of the 305-B Operating Record.

Quarterly and Annual Inspections. In addition to the several layers of management inspection of 305-B, safety inspections are performed to assure the

CONTAINER INSPECTION - 305-B BUILDING

Inspector (Print): _____ Date: _____

	Cell Cabinets				Unflab	Open Shelves	Room Storage
	1	2	3	4			
Leaking containers?	_____	_____	_____	_____	_____	_____	_____
Deteriorating containers?	_____	_____	_____	_____	_____	_____	_____
Frozen contents?	_____	_____	_____	_____	_____	_____	_____
Broken/cracked containers?	_____	_____	_____	_____	_____	_____	_____
Mislabeled containers?	_____	_____	_____	_____	_____	_____	_____
Proper waste segregation?	_____	_____	_____	_____	_____	_____	_____
Waste containers closed?	_____	_____	_____	_____	_____	_____	_____
Epoxy floor sealant intact? (Y/N)	_____						
Floors cracked (gaps)? (Y/N)	_____						
Sumps empty and dry? (Y/N)	_____						
1 Minimum 2-ft aisle space present? (Y/N)	_____						
3 Emergency and safety equipment in good working condition (Y/N)	_____						
2 Eyewash (2)	_____						
Shower: clear access, water line open, operational (2)	_____						
Spill control equipment	_____						
Fire extinguishers (4)	_____						
Phones (5)	_____						
5 P.P.E in adequate supply and working order (Y/N)	_____						
7 Respirators (4)	_____						
Face shields (4)	_____						
Tyvek suits (6)	_____						
Acid suits (6)	_____						
Eye protection - goggles (20)	_____						
Gloves - rubber and leather	_____						
SCBA (1)	_____						
9 Inventory below 30,000 gallons (~150,000 kg)?	_____						
Estimated Volume: _____	_____				Below Class B limits? (Y/N)	_____	_____
Corrective action and/or cleanup performed.	_____						
Indicate assigned employee.	_____						

Inspector Signature: _____	_____				Date: _____	Time: _____	
Co-Inspector Initials: _____	_____				Date: _____	Time: _____	

Figure 6-2. Weekly Inspection Checklist Form.

BUILDING MONTHLY MANAGEMENT INSPECTION CHECKLIST

Date/Time _____ Inspector (Print/Sign) _____

	<u>Check if Working/ Present</u>	<u>Comments*</u>
Check for working condition:		
Lights	_____	_____
Exhaust fan	_____	_____
Heater	_____	_____
Eye wash/shower	_____	_____
Fire extinguishers	_____	_____
Sump pump and drain	_____	_____
Hood	_____	_____
Check housekeeping:		
Inside	_____	_____
Outside	_____	_____
Aisles/walkway clear	_____	_____
Check locks - lubricate if necessary:		
Building	_____	_____
Padlocks	_____	_____
Check waste storage:		
Weekly inspection conducted?	_____	_____
Facility crowded/too full?	_____	_____
Container condition	_____	_____
Proper segregation	_____	_____
Check supply and working condition of safety equipment:		
Gloves - leather & disposable	_____	_____
Goggles	_____	_____
Face shields	_____	_____
Coverall/lab coats	_____	_____
Masks & cartridges	_____	_____
Check spill control and cleanup supplies:		
Spill pillows - general & acid	_____	_____
Neutralizers	_____	_____
Other: _____	_____	_____
Check packaging material:		
Drums - 5 gallon	_____	_____
Drums - 30 gallon	_____	_____
Drums - 55 gallon	_____	_____
Absorbent - oil dry	_____	_____
Absorbent - vermiculite	_____	_____
Labels	_____	_____
Marking supplies: pens/spray paint	_____	_____

*Corrective actions required within 2 weeks.

Figure 6-3. Monthly Inspection Checklist Form.

1 fire protection system, eye wash/shower unit, and walk-in hood ventilation system
2 are in working order. The Hanford 300 Area Fire Department performs a quarterly
3 inspection of fire suppressant and notification systems (i.e., sprinkler system
4 and pull boxes). This inspection includes flow tests of the sprinklers to assure
5 no blockage in the system lines as well as activation of the alarm system to
6 assure proper operation of pull boxes. On an annual basis, the Fire Department
7 performs a full inspection of the sprinkler system, heat detectors, and pull
8 boxes. A complete flow test is performed from the furthest valve to assure flow
9 through the entire system. Fire extinguishers are also checked for proper
10 pressure and function. Records of these fire inspections and their results, as
11 well as documentation of any required corrective actions, are kept in the 305-B
12 Operating Record.

13
14 PNL facilities support staff perform additional documented inspections of the two
15 emergency eye wash/shower units, the walk-in hood air flow, and the elephant-
16 trunk ventilators air flow. The records of these inspections are transmitted to
17 waste management operations staff and maintained at 305-B. The safety showers
18 and air flow of the walk-in hood and elephant-trunk ventilators are inspected
19 quarterly. The emergency eyewash/safety showers are checked for proper
20 operation, and the walk-in hood and elephant-trunk ventilation face velocity must
21 meet a 125 fpm minimum requirement. Records of these safety equipment
22 inspections and their results, as well as documentation of any required
23 corrective actions, are kept in the 305-B Operating Record.

24
25 6.2.1.2 Frequency of Inspections [F-2a(2)]. Inspections are conducted on a
26 daily, weekly, monthly, quarterly, and annual basis, as described in Section
27 6.2.1.1. The frequency of inspections is based on specific regulatory
28 requirements and on the rate of possible deterioration of equipment and
29 probability of environmental or human health incidents.

30
31 Areas where dangerous and mixed wastes are actively handled, including the
32 loading bay, storage compartments, and walk-in air hood area, are considered to
33 be areas subject to spills. These areas are given daily inspections when in use,
34 as required by WAC 173-303-320(2)(c).

35
36 The containment system (i.e., floors and sumps) is inspected weekly. This
37 frequency is based on the need to perform timely corrective actions in the event
38 that problems are noted.

39
40 Aisle space between containers is inspected weekly. This frequency is based on
41 the consideration of the rate of container transfers and movement within 305-B.
42 Weekly inspections will allow container spacing problems to be identified and
43 corrected before they become major.

44
45 Emergency and safety equipment and personal protective equipment are inspected
46 weekly. This frequency is based on consideration of the expected rate of use of
47 this equipment. Use of emergency equipment should not occur more than once
48 during any one-week period. Weekly inspections will assure that this equipment
49 is always functional and available in adequate supply.
50

6.2.2 Specific Process Inspection Requirements [F-2b]

The following sections detail the inspections to be performed at the 305-B Storage Facility.

6.2.2.1 Container Inspection [F-2b(1)]. Dangerous and mixed waste containers in storage at 305-B are inspected weekly for leakage; evidence of deterioration of structural integrity (e.g., bulging, creasing, and rusting); proper and legible labeling; and proper lid and bung closure. The containment system for 305-B is also inspected weekly for evidence of damage which could result in releases and to assure that adequate containment capacity is available to respond to spills and leaks.

The container and containment system inspections are performed at the same time as the weekly general inspection described in Section 6.2.1.1. Specific problems to be looked for in the inspection are included in the Weekly Inspection Checklist Form shown in Figure 6-2. Inspection procedures, documentation of inspections, response to problems, and documentation of corrective actions are as described for weekly inspections in Section 6.2.1.1.

6.2.2.2 Tank Inspection [F-2b(2)]. This section does not apply to the 305-B Storage Facility because wastes are not stored or treated in tanks.

6.2.2.3 Waste Pile Inspection [F-2b(3)]. This section does not apply to the 305-B Storage Facility because wastes are not placed in waste piles.

6.2.2.4 Surface Impoundment Inspection [F-2b(4)]. This section does not apply to the 305-B Storage Facility because wastes are not placed in surface impoundments.

6.2.2.5 Incinerator Inspection [F-2b(5)]. This section does not apply to the 305-B Storage Facility because wastes are not incinerated.

6.2.2.6 Landfill Inspection [F-2b(6)]. This section does not apply to the 305-B Storage Facility because wastes are not placed in landfills.

6.2.2.7 Land Treatment Facility Inspection [F-2b(7)]. This section does not apply to the 305-B Storage Facility because wastes are not treated in land treatment units.

6.3 WAIVER OR DOCUMENTATION OF PREPAREDNESS AND PREVENTION REQUIREMENTS [F-3]

The following documents the preparedness and prevention measures taken at the 305-B Storage Facility.

6.3.1 Equipment Requirements [F-3a]

The following sections describe the internal and external communications and emergency equipment in use at 305-B.

6.3.1.1 Internal Communications [F-3a(1)]. Internal communication systems are used to provide immediate emergency instruction to personnel in 305-B. Internal

communications address general emergencies which may occur in the 300 Area as well as specific emergencies which may occur in 305-B.

Because of the nature of activities which occur in the 300 Area, the potential exists for emergencies outside of 305-B (e.g., release of radioactive materials) which could impact operations and staff in 305-B. For this reason, the general emergency signals for the 300 Area are applicable to 305-B. These signals are summarized in Table 6-1. Fire alarm signals are located in each building throughout the 300 Area. The nearest emergency siren for "area evacuation" and "take cover" is located 300 yards southeast of 305-B, on top of the 326 Building, and is audible in 305-B. Because fissile materials are not handled in 305-B, there is no criticality alarm for the facility.

Internal communications to provide emergency instruction in the event of an emergency in 305-B are fire alarms and telephones. The fire alarms are to be used to provide notification for immediate evacuation of 305-B. Fire alarm pull boxes are located at all exits of the facility such that operating personnel have immediate access to one in all portions of 305-B. Four fire alarm bells are located within the 305-B and are audible at all locations within the building. The locations of the fire alarm bells are shown in Figure 6-4 and are as follows: 1) office wing on the northeast hall; 2) office wing next to the east entrance; 3) on the south wall of the basement; and 4) on the northwest wall of the high bay. The telephone system is to be used to provide verbal emergency instructions to 305-B staff. A network of telephones covers both floors of the facility. Locations of telephones are shown in Figure 6-4. In addition to the telephone communication system at 305-B, operating personnel have access to three hand-held radios, two inside the storage facility and one in the pickup truck assigned to the facility. All of the radios transmit at the same frequency, and are capable of summoning PNL's security control room in case of an emergency.

6.3.1.2 External Communications [F-3a(2)]. As mentioned in Section 6.3.1.1 above, both a fire alarm system and telephone network system are in place at 305-B. Both systems can be used to summon emergency assistance. The fire alarm system summons direct response from the Hanford Fire Department's 300 Area Station. The telephone system can be used to access Hanford's Emergency Network directly at 375-2400 or by dialing the emergency number, 811. Locations of fire alarm pull boxes and telephones are given in Figure 6-4.

6.3.1.3 Emergency Equipment [F-3a(3)]. Emergency equipment available for trained 305-B personnel includes portable fire extinguishers, a fire suppression system, spill response equipment, and decontamination equipment. Six portable 10-lb ABC fire extinguishers and three portable 14-lb Halon fire extinguishers are available at various locations throughout 305-B, as shown in Figure 6-4. The 10-lb ABC extinguishers are located as follows: 1) next to the east entrance; 2) northwest end of the basement; 3) southwest end of the high bay; 4) outside of the bulking module door; 5) north of Cell No. 4 entrance; and 6) northwest end of high bay. The three 14-lb Halon fire extinguishers are located 1) east of Cell No. 4 entrance; 2) in the office/supply room; and 3) east of the liquid bulking module. The facility is also equipped with an automatic fire suppression system consisting of galvanized steel, schedule 40 per ASTM A120 pipe and 150-lb malleable iron per ANSI B16.3 fittings. All components are UL-listed or FM-approved, and installation of the fire sprinkler system has been conducted

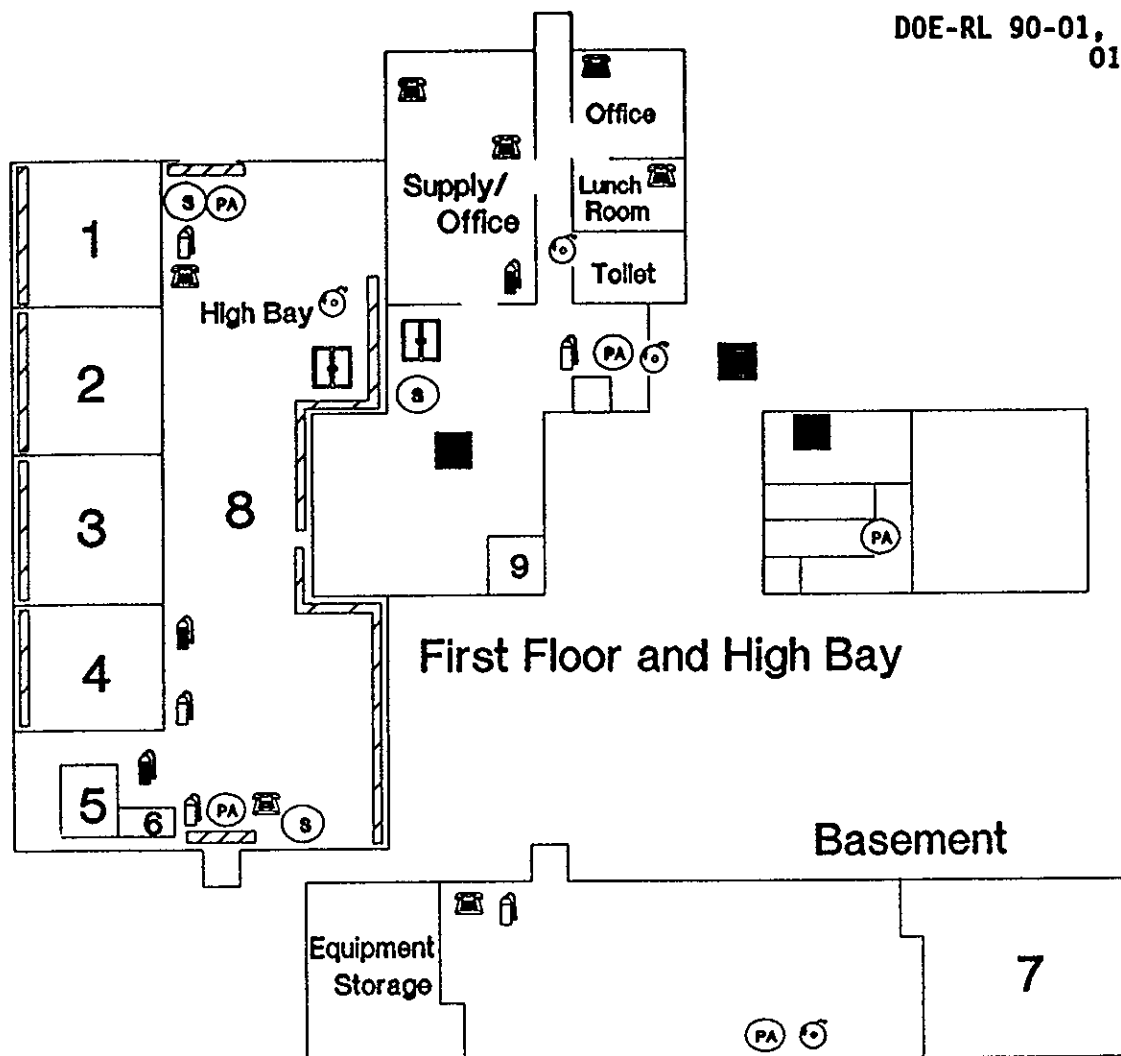
Table 6-1. Emergency Signals and Responses.

Signal	Meaning	Response
Gong	Fire	Evacuate building. Move upwind. Keep clear of emergency vehicles.
Siren - steady 3 to 5 minute blast	Area Excavation	Proceed promptly to north parking lot staging area. Stand by to follow instructions from emergency director.
Wavering Siren	Take Cover	Closeup the 305-B Building, turn off all intake ventilation and go to the 314 Building south of the facility. Contact Laboratory Safety (337 Building) with your whereabouts. If this cannot be accomplished, stay in the 305-B Building until notified that it is safe to leave.
Howler (Aa-oo-gah)	Criticality	Run immediately at least 100 yards away from the signal and take cover. Personnel inside the 305-B Building should follow the "take cover" procedure and wait for further instructions.

ALL EMERGENCY SIGNALS CAN BE HEARD BY PHONING 373-2345

in accordance with NFPA 13 for ordinary hazard. Spill cleanup supplies and equipment maintained are summarized in Table 6-2. Two emergency eye wash/showers are available for emergency personnel decontamination. The locations of the emergency eye wash/showers are shown in Figure 6-4. If needed, additional emergency equipment can be provided by the Hanford Fire Department. Emergency equipment available through the Hanford Fire Department for hazardous materials response is identified in Appendix 6A.

6.3.1.4 Water for Fire Control [F-3a(4)]. Adequate water volume and pressure are supplied by the large diameter line that services 305-B for potable use and fire protection. Three fire hydrants are located in immediate proximity to serve the 305-B facility: 1) 80 ft directly north of the northwest corner of 305-B; 2) 40 ft directly south of the southwest corner of 305-B; and 3) 60 ft directly east of the southeast corner of 305-B. In addition, the Hanford Fire Department's 300 Area Station is located within 0.25 mile of 305-B.



LEGEND

- 1 Acids, Oxidizers
- 2 Poisons, ORM
- 3 Caustics, Non-regulated, WSDW
- 4 Hydrocarbons
- 5 Liquid Bulking Module
- 6 Asbestos Cabinet
- 7 RMW Storage Cell
- 8 High Bay Floor Storage
- 9 Small Quantity Flammable RMW

- (S) Safety Shower/Eyewash
- ☎ Phone
- 🔔 Fire Alarm Bell
- (PA) Fire Alarm Pull Box
- 🧯 14 lb Halon Fire Extinguisher
- 🧯 10 lb ABC Fire Extinguisher
- 🚪 Removable Access to Basement
- 🚪 Emergency Equipment Cabinet
- ▨ Collection Sumps

Figure 6-4. 305-B Storage Facility Building Plan and Locations of Emergency Equipment.

Table 6-2. Material and Equipment for Spill Containment and Cleanup.

<u>Materials/Equipment</u>	<u>Quantity</u>	<u>Purpose</u>	<u>Notes</u>
Diatomaceous Earth	30-gallon drum	To absorb small spills of oils, solvents, aqueous materials. Not used for acids or caustics unless first neutralized.	Stored in high bay of 305-B.
Vermiculite	55-gallon drum	To absorb small spills of oils, solvents, aqueous materials. Not used for acids or caustics unless first neutralized.	Stored in high bay of 305-B.
Absorbent Pillows	Three cartons, each containing 12 pillows	To be used for diking or damming and absorption of spilled materials.	Each pillow can absorb slightly more than 1 L of liquid.
Acid- and base-specific and solvent absorbents or neutralizers	50-lb box of each in 305-B, and a 32-oz bottle of each in transport vehicle.	Neutralization of known chemical spills.	J.T. Baker TM brand or equivalent.
Citric Acid	55-gallon drum	Neutralization of alkaline spills.	Stored in high bay of 305-B.
Sodium Bicarbonate	30-gallon drum	Neutralization of acid spills.	Stored in high bay of 305-B.

6.3.2 Aisle Space Requirements [F-3b]

Containers of dangerous waste are placed within concrete storage cells in the first floor high bay area. A minimum of 2 ft of aisle space is maintained in all working aisles, and 1 ft in all non-working aisles to allow for inspection and the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the facility in an emergency. A minimum of 3 ft of aisle space is maintained between containers and outside walls.

Containers of nonflammable RMW are lowered into the 305-B basement using an overhead crane or winch assembly. The overhead crane assembly has a capacity of 1,000 lbs, which is greater than the weight of the largest container which will be stored in the basement. The crane can handle containers sized up to an 85-gal overpack drum, which is the largest container which will be stored in the basement. The containers are immediately transported, via a hand lift, into the storage cell. Aisle space in the basement is maintained for unobstructed movement of the above container transfer equipment as well as personnel, fire protection equipment, spill control equipment, and decontamination equipment.

The proper maintenance of aisle space is inspected weekly and noted on the weekly inspection checklist.

6.4 PREVENTIVE PROCEDURES, STRUCTURES, AND EQUIPMENT [F-4]

The following sections describe preventative procedures, structures, and equipment.

6.4.1 Unloading Operations [F-4a]

Procedures have been developed at 305-B to prevent hazards and minimize the potential for breakage, punctures, or the accidental opening of containers during waste unloading. All waste unloading is performed inside the 305-B Storage Facility. The large bay door is opened and the appropriate transporting vehicle (usually a pickup truck) is driven inside. As described in Section 4.1.1.3, the unloading area has secondary containment. By unloading all wastes inside the fully-contained facility, spills during unloading operations will be contained.

Procedures for unloading and transferring wastes to storage areas have been designed to minimize hazards. All wastes are inspected prior to shipment to 305-B to ensure that they are in appropriate containers and that the containers are in good condition. Inspection of containers prior to acceptance at 305-B minimizes the potential for spills during unloading operations. The potential for spills during waste handling is minimized through the use of appropriate container handling equipment. Large waste items such as drums of nonflammable RMW are lowered into the basement of the facility for storage using an overhead crane or winch assembly. The containers are immediately transported, via a hand lift, into the concrete lined storage vault. Forklifts may also be used to unload heavy waste items. Small waste items can be unloaded by hand. Each small waste item is removed from the secondary containment unit in which it was transported (i.e., plastic storage tub) and placed in the appropriate storage location.

6.4.2 Run-Off [F-4b]

The 305-B Storage Facility was designed to eliminate the likelihood of off-site migration via run-off. Because the facility is completely enclosed (i.e., complete roof and no open walls), run-off of precipitation is not a factor. In addition, floors are bermed and sloped toward sumps in the loading/unloading area and each storage cell is similarly bermed, sloped, and individually sumped to eliminate the possibility of spills interacting or migrating offsite. The main high bay area and each storage cell are fully contained by at least a 6-in. high dike or ramp. Each door from the waste handling areas to the outside has a collection trench to intercept any potential run-off. The containment system for 305-B is described in more detail in Section 4.1.1.3.

6.4.3 Water Supplies [F-4c]

305-B is designed and operated to safely contain wastes and prevent any contamination of water supplies. The containment system described in Section 4.1.1.3 prevents infiltration of wastes which could contaminate groundwater and prevents run-off of wastes which could contaminate surface water. The nearest water supply is the 300 Area water intake, which is located on the Columbia River 0.5 mile from 305-B.

6.4.4 Equipment and Power Failure [F-4d]

The 305-B Storage Facility does not have any "critical systems" that are dependent on electrical power for operation ("critical systems" are those whose failure would result in release of dangerous or mixed wastes to the environment). The heating, ventilation, and air conditioning (HVAC) system, walk-in hood, and elephant-trunk ventilation system need power to be operable. Any activities involving the use of these ventilation devices, such as transferring waste to a larger container, would be terminated until power is restored. An emergency backup lighting system is in place and would be automatically activated if the electrical lights were lost due to power outage. The forklift used at 305-B is battery-powered. No other equipment depends upon electrical power for operation.

The only waste handling equipment used at 305-B is the equipment used to transport waste containers (i.e., forklift, hoist used to transfer nonflammable RMW). Adequate storage capacity exists in the high bay area to temporarily store waste containers in the event of failure of waste handling equipment. Wastes could be stored until equipment repairs are completed. As described in Section 4.1.1.3, the high bay area has secondary containment.

6.4.5 Personnel Protection Equipment [F-4e]

Protective clothing and equipment are provided to safeguard employees during normal and emergency operations. Protective eyewear, coveralls, and gloves are the minimum protective clothing to be worn. Protective clothing and equipment available in the 305-B Storage Facility includes:

- 50 plastic aprons
- 6 pairs of rubber boots
- 100 pairs of disposable plastic gloves
- 10 pairs of non-disposable gloves

- 12 chemical resistant suits
- 20 pairs of extra protective eyeglasses
- 3 SCBA
- 5 pairs of chemical goggles
- 6 face shields
- 4 full-face respirators with appropriate cartridges.

This protective equipment is stored in cabinets located outside of the operating area east entrance and is well stocked at all times. The location of the storage cabinets is given in Figure 6-4. This equipment is periodically replaced as it is used. The above inventory reflects the quantities of each type of PPE that are typically present at 305-B. Minimum quantities required to be present are given in the weekly inspection checklist, Figure 6-2.

6.5 PREVENTION OF REACTION OF IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTES [F-5]

The following sections describe prevention of reaction of ignitable, reactive, and incompatible waste.

6.5.1 Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Waste [F-5a]

305-B may be used to store a variety of ignitable wastes. Precautions to prevent ignition of ignitable wastes involve separation of wastes from sources of ignition and use of procedures which minimize the potential for accidental ignition. There are no routine sources of ignition or open flame in 305-B. Work with ignition or heat sources, if required, is limited and controlled by PNL management and is performed in compliance with internal PNL health and safety procedures for elimination of ignition sources. These internal procedures:

- Prohibit use of open flame equipment when working with flammable liquids
- Prohibit smoking around flammable liquids
- Require electrical equipment used in flammable or explosive atmospheres to comply with the National Electrical Code, NFPA 70
- Require use of equipment with automatic, adjustable temperature controls and high-temperature limit switches to prevent overheating
- Prohibit placement of flammable liquids on hot surfaces
- Require all static electricity sources to be grounded in areas where ignitable vapors may be present
- Require bonding of conductive containers when transferring flammable liquids.

All maintenance or modifications that require work with ignition sources must receive prior approval by a PNL Safety Engineer. This approval is documented in the Operating Record. Smoking is not allowed in 305-B at any time and the

interior and exterior of the facility are clearly posted with "No Smoking" signs. The 305-B facility is heated by steam piped from a steam generator in the 300 Area so that there is no radiant heat source associated with building heating. All tools used to open ignitable waste containers are constructed of nonsparking materials.

Ignitable waste storage areas are inspected annually by a PNL fire safety engineer familiar with the Uniform Fire Code. This inspection is documented in the Operating Record. There are also storage restrictions at 305-B for combustible wastes as part of fire safety requirements. The storage restrictions defined in the Uniform Building Code for Class B Occupancy apply to 305-B (International Conference of Building Officials 1988). These restrictions are given in Table 6-3. The weekly inspection for 305-B includes checking to see if the inventory of combustibles is below these limits. These inspections are documented in the Operating Record.

6.5.2 General Precautions for Handling Ignitable or Reactive Waste and Mixing of Incompatible Waste [F-5b]

As described in Section 6.5.1, ignitable wastes are managed in a manner which protects the wastes from sources of ignition or open flame. Ignitable waste containers are maintained in good condition and inspected weekly to minimize the potential for releases which could result in fire. Containers of ignitable waste are protected from high temperature to prevent the potential for pressurization and buildup of ignitable vapors. Containers of ignitable waste are stored in flammable material storage cabinets within waste storage cells, as shown in Figure 6-5.

Because of the wide variety of wastes which may be accepted at 305-B, the potential exists for storage of incompatible wastes. Mixing of incompatible wastes is prevented through waste segregation and storage procedures. Chemical wastes stored in 305-B are separated by compatibility and hazard class and stored in separate storage cells. Separate storage shelves and cabinets are used within the storage cells, as shown in Figure 6-5, to provide further waste segregation. Prior to accepting unfamiliar wastes from generators, waste management organization staff determine the Reactivity Group Number as per A Method for Determining the Compatibility of Hazardous Wastes (EPA 1980) for each waste so that wastes may be stored with compatible materials. The following general guidance is used to segregate and separate chemicals:

- Store acids on a low storage shelf or in acid storage cabinets. Separate acids from bases and alkaline metals such as potassium or sodium
- Separate oxidizing acids from organic acids and flammable or combustible materials
- Store bases away from acids and store solutions of inorganic hydroxides in polyethylene containers
- Store oxidizers away from flammable or combustible materials and reducing agents such as zinc, alkaline metals, and formic acid

Table 6-3. Uniform Fire Code Storage Restrictions.

Basic Quantities Per Control Area

CONDITION		STORAGE			USE-CLOSED SYSTEMS			USE-OPEN SYSTEMS		
MATERIAL	Class	Solids Lbs (Cu.Ft.)	Liquid Gallons (Lbs.)	Gas (Cu.Ft.)	Solids Lbs (Cu.Ft.)	Liquid Gallons (Lbs.)	Gas (Cu.Ft.)	Solids Lbs (Cu.Ft.)	Liquid Gallons (Lbs.)	Gas (Cu.Ft.)
1.1 Combustible liquid	II III-A III-B		120 330 13,200			120 330 13,200			30 80 3,300	
1.2 Combustible dust (lbs/1000 cu.ft.)		1			1			1		
1.3 Combustible fiber (loose)		(100)			(100)			(20)		
(baled)		(1,000)			(1,000)			(200)		
1.4 Cryogenic, flammable or oxidizing			45			45			10	
2.1 Explosives		1	(1)		0.25	(0.25)		0.25	(0.25)	
3.1 Flammable solid		125			25			25		
3.2 Flammable gas (gaseous)				750			750			
(liquified)			15			15				
3.3 Flammable liquid	I-A I-B I-C		30 60 90			30 60 90			10 15 20	
Combination I-A,I-B,I-C			120			120			30	
4.1 Organic peroxide, unclass. detonatable		1	(1)		0.25	(0.25)		0.25	(0.25)	
4.2 Organic peroxide	I II III IV V	5 50 125 500 N.L.	(5) (50) (125) (500) N.L.		(1) (50) 125 500 N.L.	(1) (50) (125) (500) N.L.		1 10 25 100 N.L.	1 (10) (25) (100) N.L.	
4.3 Oxidizer	4 3 2 1	1 10 250 1,000	(1) (10) (250) (1,000)		0.25 2 250 1,000	(0.25) (2) (250) (1,000)		0.25 2 50 200	(0.25) (2) (50) (200)	
4.4 Oxidizer - Gas (gaseous)				1,500			1,500			
(liquified)			15			15				
5.1 Pyrophoric		4	(4)	50	1	(1)	10	0	0	0
6.1 Unstable (reactive)	4 3 2 1	1 5 50 125	(1) (5) (50) (125)	10 50 250 750	0.25 1 50 125	(0.25) (1) (50) (125)	2 10 250 750	0.25 1 10 25	(0.25) (1) (10) (25)	0 0 0 0
7.1 Water (reactive)	3 2 1	5 50 125	(5) (50) (125)		5 50 125	(5) (50) (125)		1 10 25	(1) (10) (25)	

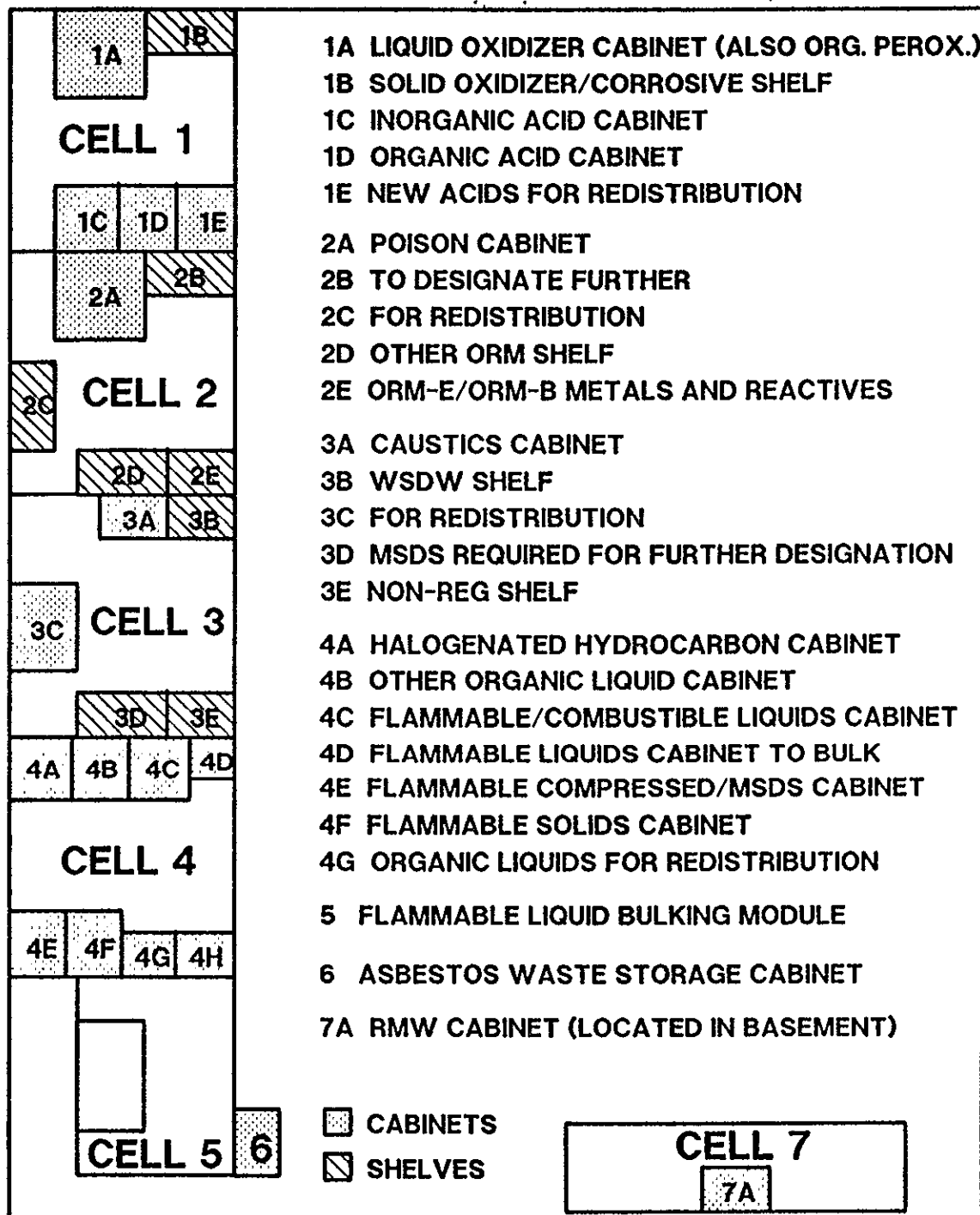


Figure 6-5. Layout of Waste Storage Cabinets and Shelves Within Storage Cells.

- Store peroxide-forming chemicals in airtight containers in a dark, cool, and dry place (inside of cabinets)
- Store flammable materials in approved containers or cabinets
- Separate flammable materials from oxidizing acids and oxidizers and keep them away from sources of ignition
- Clearly mark cabinets to identify the hazards associated with their contents.

The potential for waste ignition or reaction at 305-B is also minimized through storage restrictions on hazardous material quantities. The storage restrictions defined in the Uniform Building Code for Class B Occupancy apply to 305-B (International Conference of Building Officials 1988). These restrictions are given in Table 6-3. The weekly inspection of 305-B includes checking to see if waste inventories are below these limits. These inspections are documented in the Operating Record.

1
2
3
4
5

This page intentionally left blank.

3
4
2
0
1
5
1
1
0
0

CONTENTS

7.0	CONTINGENCY PLAN [G]	7-1
7.1	GENERAL INFORMATION [G-1]	7-1
7.2	EMERGENCY COORDINATORS [G-2]	7-2
7.3	IMPLEMENTATION OF THE CONTINGENCY PLAN [G-3]	7-2
7.4	EMERGENCY RESPONSE PROCEDURES [G-4]	7-3
7.4.1	Notification [G-4a]	7-3
7.4.2	Identification of Hazardous/Dangerous Materials [G-4b]	7-5
7.4.3	Hazard Assessment [G-4c]	7-5
7.4.4	Control Procedures [G-4d]	7-5
7.4.4.1	Area-wide Evacuation	7-6
7.4.4.2	Take Cover	7-6
7.4.4.3	Response to Spills	7-6
7.4.4.4	Major Dangerous Waste and/or RMW Spill or Material Release	7-6
7.4.4.5	Response to Fire	7-8
7.4.4.6	Unusual, Irritating, or Strong Odors	7-9
7.4.4.7	Discovery of a Bomb or Suspicious Object	7-9
7.4.4.8	"Off-Shift" Conditions	7-9
7.4.5	Prevention of Recurrence or Spread of Fires, Explosions, or Releases [G-4e]	7-10
7.4.6	Storage and Treatment of Released Material [G-4f]	7-10
7.4.7	Incompatible Waste [G-4g]	7-11
7.4.8	Post-Emergency Equipment Maintenance [G-4h]	7-11
7.4.9	Response to Container Spills or Leaks [G-4i]	7-12
7.4.10	Response to Tank Spills or Leaks [G-4j]	7-12
7.4.11	Surface Impoundment Spills and Leakage [G-4k]	7-12
7.4.12	Waste Pile Spills and Leakage [G-4l]	7-12
7.4.13	Incineration Spills and Leakage [G-4m]	7-12
7.4.14	Landfill Leakage [G-4n]	7-12
7.4.15	Land Treatment Facility Spills and Leakage [G-4o]	7-12
7.5	EMERGENCY EQUIPMENT [G-5]	7-13
7.5.1	Communication Equipment	7-13
7.5.2	Fire Control Equipment	7-13
7.5.3	Other Emergency Equipment	7-13
7.5.4	Hanford Site Emergency Equipment	7-15
7.6	COORDINATION AGREEMENTS [G-6]	7-15
7.6.1	Local, State, and Federal Authorities	7-16
7.6.2	Hanford Fire Department	7-16
7.6.3	Medical and First Aid	7-16
7.6.4	Ambulance Service	7-16
7.6.5	Unified Dose Assessment Center	7-17
7.6.6	Hanford Patrol	7-17
7.6.7	River Evacuation	7-17

CONTENTS (Cont'd)

7.6.8	Meteorological Information	7-17
7.6.9	Washington Public Power Supply System	7-17
7.7	EVACUATION PLAN [G-7]	7-18
7.8	REQUIRED REPORTS [G-8]	7-18
7.9	CONTINGENCY PLAN LOCATION	7-20

FIGURES

7-1.	Emergency Action Chain of Command	7-4
7-2.	Emergency Plan of Secondary Action.	7-7
7-3.	305-B Storage Facility Emergency Equipment Locations.	7-14
7-4.	305-B Evacuation Exits.	7-19

90117310243

7.0 CONTINGENCY PLAN [G]

The information contained in this chapter is submitted in accordance with the requirements for a contingency plan, as contained in WAC 173-303-806(4)(a)(vii) and WAC 173-303-350 and WAC 173-303-360. This plan has been developed to ensure that there are the necessary planned procedures in place at 305-B in the event an emergency situation arises.

The contingency plan establishes policy and creates procedures for spill prevention, containment, and countermeasures to minimize any adverse impact to the environment, to reduce safety and health hazards, and to meet standards which define the acceptable management of dangerous waste. Information on the dangerous properties of the various chemicals used in the facility, the safeguards to protect personnel from exposure, and the proper handling, storage, and disposal of the dangerous materials is maintained at 305-B.

The contingency plan is designed to minimize hazards to human health and the environment from fires, explosions, or any other unplanned sudden or non-sudden release of dangerous waste or dangerous waste constituents to air, soil, or surface water. The provisions of the plan will be carried out immediately whenever there is a fire, explosion, or release of dangerous waste or dangerous waste constituents which could threaten human health or the environment.

This plan can be amended by the Emergency Preparedness Office at PNL whenever:

- Applicable regulations or the facility permit are revised
- The plan fails in emergency
- The facility changes in a way that materially increases the potential for fires, explosions, or releases of dangerous waste or dangerous waste constituents, or in any way that changes the response necessary in an emergency
- The list of emergency coordinating personnel changes
- The list of emergency equipment changes
- Errors are found in the plan.

7.1 GENERAL INFORMATION [G-1]

The 305-B Storage Facility is a dangerous and radioactive mixed waste storage facility located in the 300 Area of the Hanford Site. 305-B is owned by the U.S. Government, operated by DOE-RL, and co-operated by PNL. It is used for the collection, consolidation, and packaging of containerized dangerous and radioactive mixed waste. Typically, 305-B handles a large number of small volume chemical wastes generated from research laboratory activities. Chemicals which are no longer needed at or useful to the laboratories are stored at the 305-B until they can be consolidated into large enough containers to warrant shipping

1 to a permitted treatment, storage, and/or disposal facility. Additional
2 information on 305-B is contained in Chapter 2.0.

3 4 5 **7.2 EMERGENCY COORDINATORS [G-2]**

6
7 The overall responsibility for implementation of the Contingency Plan and
8 protection of 305-B personnel and property lies with the Building Emergency
9 Director (BED, or Emergency Coordinator) or his designated alternates. This
10 responsibility includes the direction of emergency response groups such as the
11 Hanford Patrol, Hanford Fire Department, etc. The BED and alternates are on call
12 24 hours per day and have the authority to commit all necessary resources
13 including equipment and personnel in the case of an emergency. The emergency
14 response organization and contacts are included in Appendix 7A.

15 16 17 **7.3 IMPLEMENTATION OF THE CONTINGENCY PLAN [G-3]**

18
19 The decision by the BED or alternate to implement the Contingency Plan depends on
20 whether an actual incident such as a fire, explosion, chemical spill, or release
21 of dangerous waste constituents threatens human health or the environment.
22 Immediately after being notified of an emergency incident, the BED or alternate
23 will proceed to the site and evaluate the situation to determine whether to
24 implement the Contingency Plan. The following are situations that would warrant
25 implementation of the Contingency Plan:

- 26
27 ■ A fire and/or explosion occurs, such that
28 - The potential for human injury exists
29 - Toxic fumes are released or could be released
30 - The fire could spread onsite or offsite and possibly ignite other
31 flammable materials or cause heat-induced explosions
32 - The use of water and/or chemical fire suppressants could result in
33 contaminated run-off
34 - An imminent danger exists that an explosion could ignite other
35 dangerous waste at the facility and possibly result in the release of
36 toxic materials
37
38 ■ A spill or release of a dangerous material occurs such that
39 - The spill could result in the release of flammable liquids or vapors,
40 thus causing a fire or gas explosion hazard
41 - The spill could cause the release of toxic liquids or fumes
42 - The spill can be contained onsite, but the potential exists for
43 groundwater contamination
44 - The spill cannot be contained onsite, resulting in the offsite soil
45 contamination and/or ground- or surface-water pollution.

46
47 Based on evaluation of the event, the BED or alternate will determine whether
48 evacuation of the 305-B Storage Facility is required. If evacuation of buildings
49 in the vicinity of 305-B, or the entire 300 Area and/or neighboring Areas (e.g.
50 3000 Area or 400 Area) is required, the Westinghouse Hanford Company (WHC)
51 Emergency Management Center (EMC), with input from the BED or alternate, will
52 report to the PNL Single-Point Contact (375-2400) and request activation of the
53 general evacuation alarm for the appropriate area(s). The decision to evacuate

1 the City of Richland and/or Benton or Franklin County will be made by the DOE
2 Emergency Action Coordinating Team (EACT). The EACT would notify and conduct any
3 domestic evacuation that would be required. This emergency action chain of
4 command is shown in Figure 7-1.

5
6 In the event that the Contingency Plan is activated, the BED/EMC will notify the
7 PNL Single-Point Contact. DOE-RL will subsequently notify Ecology and the
8 National Response Center.

9
10 Activation of the appropriate emergency response will be decided by the BED and
11 Office of Emergency Preparedness. As additional information on the event becomes
12 available, they will revise the classification of the event and the response
13 level accordingly if necessary.

14 15 16 7.4 EMERGENCY RESPONSE PROCEDURES [G-4]

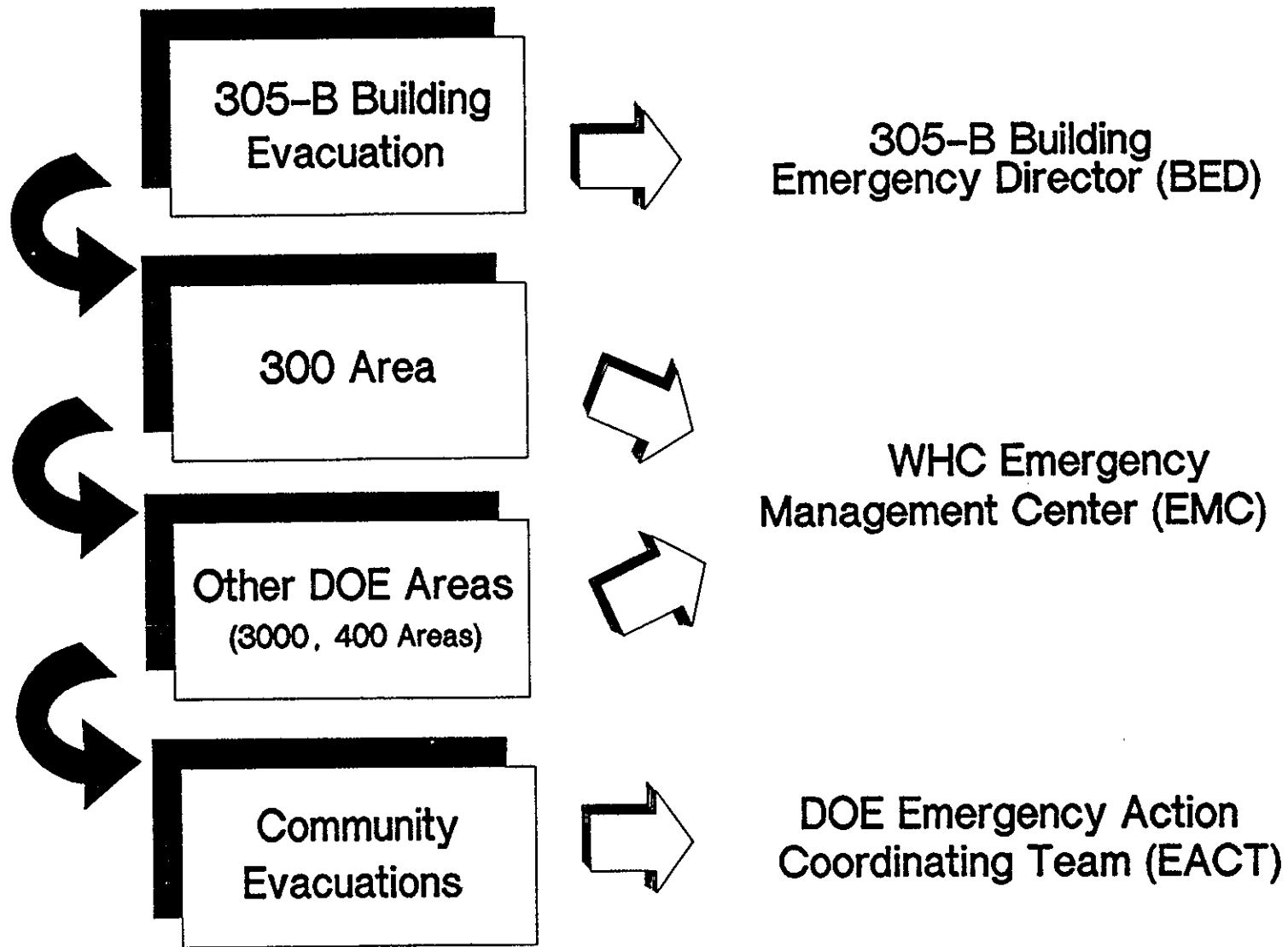
17
18 Emergency response procedures have been established for the 305-B Storage
19 Facility and are described in the following sections.

20 21 7.4.1 Notification [G-4a]

22
23 The emergency notification process will be initiated by the persons discovering
24 the emergency or potential emergency. Discovery of a fire, explosion, or spill
25 or release of chemicals may occur through the routine network of scheduled and
26 unscheduled inspections of areas by operating personnel, through security
27 inspections by the Hanford Patrol, and by remote heat sensors alarming at the 300
28 Area Fire Department. Personnel employed at the 300 Area have been trained to
29 activate any appropriate alarms (e.g., pull the fire alarm box if a fire is
30 discovered) and report all emergencies to either the PNL Single-Point Contact
31 (PNL employees) or the Hanford Patrol (other employees). In addition, a sign is
32 posted on all 305-B telephones instructing persons observing an emergency at the
33 facility to notify the PNL Single-Point Contact (375-2400). The PNL Single-Point
34 Contact will initiate emergency notification procedures, including activation of
35 areal alarms and communication systems and notification of the appropriate state
36 or local agencies with designated response roles if their help is needed. The
37 Single-Point Contact will request the person discovering the emergency to furnish
38 all pertinent information about the emergency. The BED has full responsibility
39 and authority for bringing the emergency under control within the facility.
40 Emergency notifications are performed in accordance with internal PNL off-normal
41 event reporting procedures. These procedures establish specific responsibilities
42 for emergency notification. Relative to dangerous waste emergencies, these
43 responsibilities include:

- 44
45 ■ Staff members must notify the PNL Single-Point Contact
- 46
47 ■ The PNL Single-Point Contact must
 - 48 - Arrange for emergency services (e.g., fire, ambulance) as needed
 - 49 - Contact the Building Emergency Director (Emergency Coordinator)
 - 50 - As directed by the BED, notify the Emergency Management Center
 - 51 - As directed by the BED, notify other response organizations
- 52

Emergency Action Chain of Command



7-4

Figure 7-1. Emergency Action Chain of Command.

- The Building Emergency Director must
 - Notify the Single-Point Contact if the Emergency Management Center must be activated
 - Notify appropriate PNL line management
 - Notify the PNL Facilities and Operations Director if outside notifications are necessary (e.g., to Ecology, EPA)
 - Upon approval of the PNL Facilities and Operations Director, coordinate notification by DOE-RL of outside notification requirements.

Specific hazardous materials spill and release reporting procedures are included as PNL Waste Management and Environmental Compliance (WM&EC) Procedure R1-5, HAZMAT Spill/Release Reporting, which is included in Appendix 7A.

7.4.2 Identification of Hazardous/Dangerous Materials [G-4b]

The BED or alternate will immediately identify the character, exact source, amount, and extent of the release. Identification of the spilled waste can be made by visual inspection, by sampling, by reference to facility inventory records, shipping manifests, and by consulting with operations personnel. The 305-B operating record includes information on the characteristics and storage location of all wastes stored in the facility. This information is referenced to container identification numbers and can be used in the event of spills and releases to identify dangerous constituents. Samples of spilled nonradiological material can be analyzed by HEHF, which is located in Richland, Washington, adjacent to the Hanford Site or by analytical laboratories at PNL or other Hanford Contractors. Samples of spilled RMW can be analyzed by PNL laboratories or by outside laboratories under contract to PNL.

7.4.3 Hazard Assessment [G-4c]

Once the spilled/ignited dangerous waste has been positively identified as described in Section 7.4.2, it should be possible to determine the extent of the danger posed by the spill/fire. The Emergency Control Center (ECC) is available to provide assistance to the BED if needed. Possible aid may be in the form of determining the extent of an emergency, identifying the hazards associated with the materials spilled/released, assisting in handling the emergency, or coordinating incident needs (i.e., special equipment). If the individuals present who performed the identification are uncertain as to the associated dangers, additional assessment aid will be obtained.

If further consultation does not result in a positive assessment of the danger to human health or the environment presented by the fire/spill, a worst case condition will be assumed and evacuation procedures will be initiated. The BED at the scene of the incident is responsible for initiating any evacuation.

Individuals performing a spill/fire assessment will assess both the direct and indirect hazards posed by the spill/fire.

7.4.4 Control Procedures [G-4d]

The initial response to any emergency will be to immediately protect human health and safety and then the environment. Identification, containment, treatment, and

disposal assessment will be the secondary response. An overview of the emergency plan of secondary action is shown in Figure 7-2. This overview is implemented after immediate protection of human health conditions has been met.

The following is presented to define specific emergency actions for staff assigned to 305-B for several emergency situations which could be encountered during operation of the facility.

7.4.4.1 Area-wide Evacuation. In the event of an area-wide evacuation of the 300 Area, all staff will report to the north parking lot accountability area. Zone wardens will account for all personnel.

7.4.4.2 Take Cover. In the event a take cover alarm is sounded, 305-B personnel will stay inside the 305-B Storage Facility, close all doors to the outside, and turn off all intake ventilation. Personnel will contact the PNL Laboratory Safety Department with their whereabouts and request a call back for status.

7.4.4.3 Response to Spills. In the event of a toxic spill, personnel will evacuate the immediate area and contact the PNL Single-Point Contact (375-2400). The area will be re-entered only in the presence of trained personnel and with BED approval and only after evaluating the spill and donning proper protective equipment. Specific information requirements and reporting procedures are detailed in Procedure R1-5, HAZMAT Spill/Release Reporting, which is included in Appendix 7A.

7.4.4.4 Major Dangerous Waste and/or RMW Spill or Material Release. In the event of a major emergency involving a chemical dangerous waste or RMW, the following general procedures will be followed for safe and rapid response and control of the situation:

1. The discoverer of a spill will immediately evacuate the immediate area and call the PNL Single-Point Contact (375-2400) and provide as much information as possible.
2. The Single-Point Contact will notify the BED.
3. The BED will proceed directly to the scene.
4. The BED will obtain all necessary information pertaining to the incident. If necessary, the Hanford Hazardous Material Response Team will be activated.
5. If building evacuation is necessary, the BED will sound the fire alarm.
6. If the BED determines that the emergency may affect more than one building or facility, the 300 Area ECC will be activated.
7. Notification of the 300 Area ECC sets into motion the notification process for DOE, other Hanford contractors, and outside agencies.
8. The Hanford Patrol will set up roadblocks within the 300 Area to route traffic away from the emergency scene.

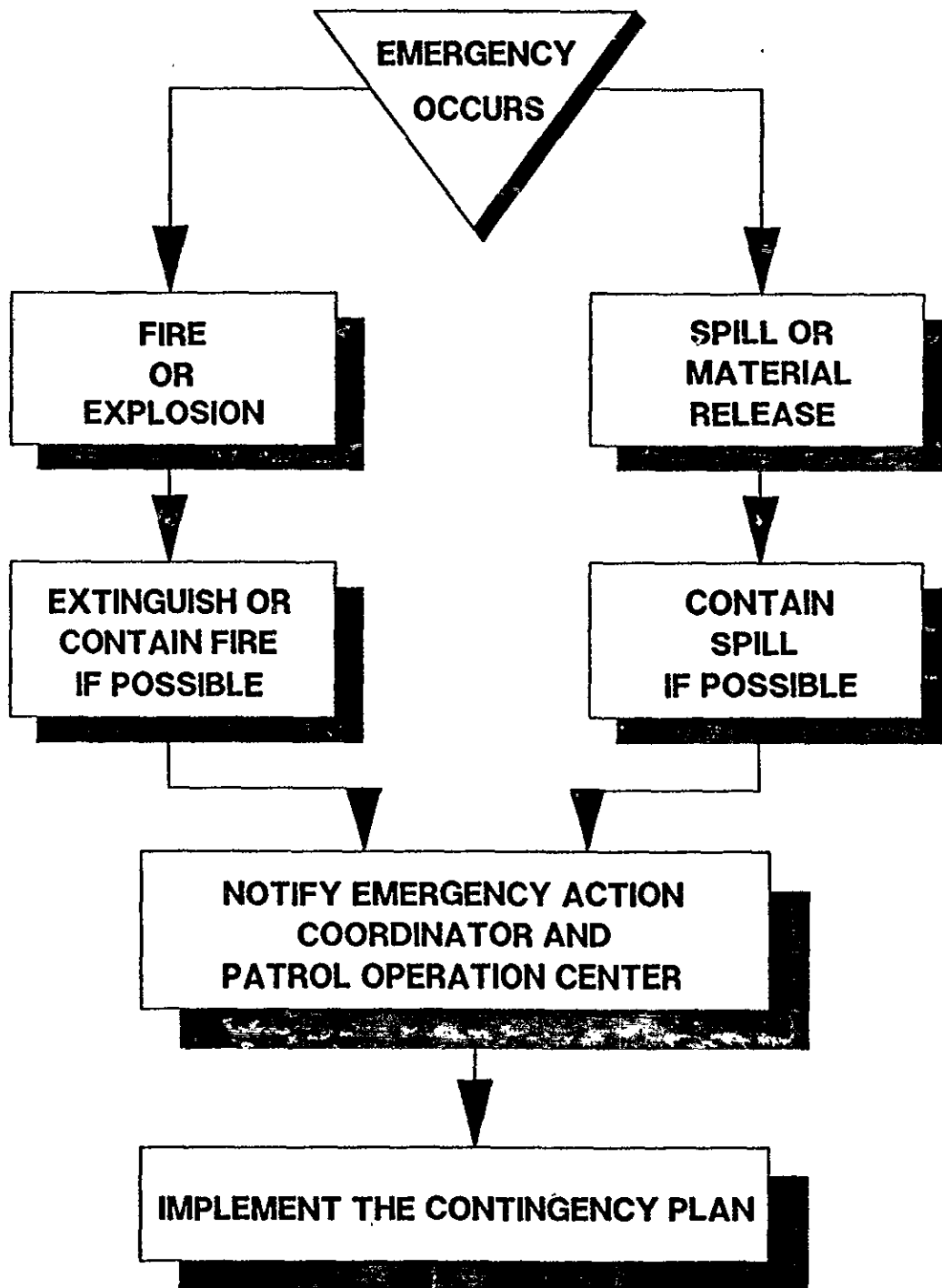


Figure 7-2. Emergency Plan of Secondary Action.

9. The emergency medical technicians will remove injured personnel to a safe location, apply first aid, and prepare for transport to the Medical Department or Kadlec Medical Center. Doctors and nurses will be on standby at the medical facility during the day shift.
10. The facility operators/technicians, supervised by the BED, will contain the spill. The BED will ensure that the spilled material is properly collected and disposed. These personnel will be equipped with proper protective equipment and clothing.
11. The BED will ensure that any flammable liquid spills do not ignite. In the event a fire does occur, the 300 Area Fire Department will control the fire using water, foam, and powders as necessary.
12. All emergency equipment will be cleaned and fit for its intended use immediately after cleanup procedures are complete.

7.4.4.5 Response to Fire. In the event of a fire, the discoverer will pull one of the manual fire alarms and call the PNL Single-Point Contact (375-2400). The personnel operating the facility are trained in the use of portable fire extinguishers. They will use their best judgment whether to fight a fire or evacuate. Under no circumstances will personnel remain in the facility to fight a fire if unusual hazards exist.

The following actions will be taken in the event of a fire or explosion:

1. Should the fire alarms (2 gongs/second) become activated, personnel will shut down equipment including transfer pumps and agitators, if time permits.
2. The alarm provides a coded signal to the 300 Area Fire Station and to the 300 Area Patrol Headquarters.
3. Personnel shall leave the area by the nearest exit and proceed to the designated staging area.
4. The BED shall be immediately notified.
5. The BED will proceed directly to the scene.
6. The BED will obtain all necessary information pertaining to the incident.
7. The BED will contact the PNL Occurrence Representative via 375-2400 or the PNL 300 Area Emergency Director (AED), depending on severity of event, and advise regarding the extent of the emergency (including estimates of dangerous material or RMW quantities and concentrations released to sewers and/or to the atmosphere) and of action necessary to protect nearby facilities.
8. Activation of the 300 Area ECC sets into motion the notification process for DOE, other Hanford contractors, and outside agencies.

- 1 9. The Hanford Patrol will set up roadblocks within the plant to route
- 2 traffic away from the emergency scene.
- 3
- 4 10. Emergency medical technicians will remove injured personnel to a safe
- 5 location, apply first aid, and prepare for transport to the medical
- 6 department or Kadlec Medical Center. Doctors and nurses will be on
- 7 standby at the medical facility during the day shift.
- 8
- 9 11. The 300 Area Fire Department will contain the fire.
- 10
- 11 12. All emergency equipment will be cleaned and fit for its intended use
- 12 immediately after cleanup procedures are complete.
- 13

14 **7.4.4.6 Unusual, Irritating, or Strong Odors.** If an unusual, irritating, or

15 strong odor is detected by a facility occupant and the staff member has reason to

16 believe that the odor may be the result of an uncontrolled release of a toxic or

17 dangerous material, the staff member shall:

- 18
- 19 ■ Immediately activate the building fire alarm system to evacuate the
- 20 building
- 21
- 22 ■ Notify the PNL Single-Point Contact (375-2400), the building manager,
- 23 and cognizant line management.
- 24

25 In the event that the occupant has knowledge of the source and scope of the

26 release and believes that the release poses no immediate threat to other

27 occupants of the facility, the release shall immediately be reported to the

28 building manager and to the staff member's management. Measures should be taken

29 to contain the release and ventilate the area.

30

31 In the event that an unusual odor is detected in the facility, and the source of

32 the odor is unknown, the BED must consider whether the facility should be

33 evacuated.

34

35 **7.4.4.7 Discovery of a Bomb or Suspicious Object.** If a bomb or suspicious

36 object is discovered, staff will clear the immediate area. The PNL Single-Point

37 Contact (375-2400) will be notified immediately. Staff will then take whatever

38 steps are necessary to assure that the object is not moved, opened, or otherwise

39 disturbed. If practicable, staff will post warning signs, place barricades, or

40 stand guard in a sheltered location and a maximum possible distance.

41

42 **7.4.4.8 "Off-Shift" Conditions.** If a staff member is working after/before hours

43 and the need to evacuate the facility occurs, the following action will be taken:

- 44
- 45 ■ Ensure that all occupants leave the facility; provide assistance if
- 46 necessary
- 47
- 48 ■ Follow the facility evacuation procedure
- 49
- 50 ■ In case of fire, activate the alarm, located at each 305-B Storage
- 51 Facility exit, before exiting
- 52

- Remain available to inform the fire department of the location of fire if fire was the cause of evacuation
- Notify the PNL Single-Point Contact at 375-2400.

7.4.5 Prevention of Recurrence or Spread of Fires, Explosions, or Releases [G-4e]

The BED is responsible for taking the steps necessary to ensure that a secondary release, fire, or explosion does not occur after the initial spill/incident. Procedures that will be implemented may include, but are not limited to:

- Inspection of containment for leaks or cracks
- Inspection for gas generation
- Isolation of residual waste materials
- Reactivation of adjacent operations only after cleanup of residual waste materials is achieved.

7.4.6 Storage and Treatment of Released Material [G-4f]

Treatment, storage, and disposal of released material is part of restart and recovery activities. Restart of operations after an emergency is conducted in accordance with internal PNL procedures for recovery from off-normal events. These procedures call for cognizant PNL line management and PNL Laboratory Safety staff to determine the need for a recovery plan. A recovery plan is needed following an event when further risk could be introduced to personnel, a facility, or the environment through recovery action and/or to maximize the preservation of evidence. If a recovery plan is required, it must be approved by PNL line management before restart. Restart of operations must be performed in accordance with the approved plan.

For emergencies not involving activation of the ECC, the BED is responsible for ensuring that conditions are restored to normal before operations are resumed. If the ECC was activated and the emergency phase completed, a special recovery organization may be appointed at the discretion of the BED to restore conditions to normal. The makeup of this organization will be dependent upon the extent of the damage and its effects. The recovery organization will be appointed by the AED.

Immediately after an emergency, the BED or the recovery organization, if appointed, will make arrangements for the cleanup phase. Procedures for treatment, storage, or disposal of recovered wastes or any other material resulting from a release, fire, or explosion at the facility, are implemented at this time.

Dangerous wastes or RMW will be contained in drums or other appropriately-sized containers and transported to an appropriate storage area. The PNL waste management organization will be contacted for support and guidance during this phase.

Cleanup may include the following actions:

- Small spills will be neutralized using approved methods, if necessary, treated with absorbent material and the residue packed in drums for disposal
- Leaking drums will be packed in overpack drums
- All chemically contaminated soils and cleanup debris will be thoroughly cleaned up and contained for disposal
- At all times, efforts will be made to segregate incompatible wastes during cleanup operations
- The BED or the recovery organization, if appointed, will make cleanup arrangements and will ensure that all response equipment is decontaminated and readied for service, or if not fit for further use, disposed of properly by excessing, salvaging, or transport to an approved facility.

7.4.7 Incompatible Waste [G-4g]

After an emergency, the BED or the recovery organization, if appointed, will ensure that no waste that may be incompatible with the release material is treated, stored, or disposed of until cleanup procedures are completed. Wastes from cleanup activities will be managed in the same manner as other dangerous wastes and/or RMW (see Section 4.3). The compatibility class of the wastes will be determined as described in A Method for Determining the Compatibility of Hazardous Waste (EPA 1980). Incompatible wastes will not be placed in the same container. Containers of waste will be placed in storage areas appropriate for their compatibility class.

7.4.8 Post-Emergency Equipment Maintenance [G-4h]

All equipment used during scene stabilization and cleanup operations will be decontaminated and readied for future use. All persons involved in the cleanup will shower and remove any contaminated clothing as necessary. Contaminated clothing will be cleaned or packaged for disposal, depending upon condition and level of contamination. All fire extinguishers will be recharged and expended supplies will be replaced.

It will be the responsibility of the BED to ensure that all equipment is cleaned and fit for its intended use prior to the resumption of operations. Depleted stocks of neutralizing and absorbing materials will be replenished, SCBAs cleaned and refilled, protective clothing cleaned or readied for disposal, etc. Necessary local and state authorities will be notified that cleanup procedures have been completed and all emergency equipment has been cleaned and is fit for use. This action will be completed prior to the resumption of operations at the facility.

7.4.9 Response to Container Spills or Leaks [G-4i]

General procedures for the identification, hazard assessment, spill control, storage and treatment of spilled material, and post-emergency cleanup of dangerous and mixed waste spills and leakage are contained in Sections 7.4.2 through 7.4.8. In addition to these general procedures, the following procedures apply to response to container leaks and spills:

- If the container is leaking, the container contents will be transferred to a sound container. Transfer of ignitable or reactive wastes will be done in accordance with internal PNL procedures for fire safety (e.g., use of nonsparking tool, use of explosion-proof electrical equipment, grounding of containers).
- If the container is not leaking, but is of questionable integrity, it will be transferred to an overpack container. All void space in the overpack will be filled with absorbent material (e.g., vermiculite).
- Any waste containers filled as a result of leak response (e.g., overpacks, cleanup residuals) will be labeled and managed in the same manner as other dangerous waste containers (see Section 4.1).

7.4.10 Response to Tank Spills or Leaks [G-4j]

This section is not applicable to 305-B because wastes are not stored in tanks.

7.4.11 Surface Impoundment Spills and Leakage [G-4k]

This section is not applicable to 305-B because wastes are not placed in surface impoundments.

7.4.12 Waste Pile Spills and Leakage [G-4l]

This section is not applicable to 305-B because wastes are not stored in waste piles.

7.4.13 Incineration Spills and Leakage [G-4m]

This section is not applicable to 305-B because wastes are not incinerated.

7.4.14 Landfill Leakage [G-4n]

This section is not applicable to 305-B because wastes are not placed in landfills.

7.4.15 Land Treatment Facility Spills and Leakage [G-4o]

This section is not applicable to 305-B because wastes are not treated in land treatment units.

7.5 EMERGENCY EQUIPMENT [G-5]

The emergency equipment available for use during an emergency at the 305-B Storage Facility and the Hanford Site 300 Area is discussed in the following sections. The locations of major emergency equipment at 305-B are shown in Figure 7-3.

7.5.1 Communication Equipment

The 305-B Storage Facility has an alarm system that is monitored by the 300 Area Fire Department. One manual fire alarm pull box is located near each exit door. In addition, staff members can utilize telephones or hand-held radios located at the facility to summon assistance. Communication equipment is also described in Sections 6.3.1.1 and 6.3.1.2.

7.5.2 Fire Control Equipment

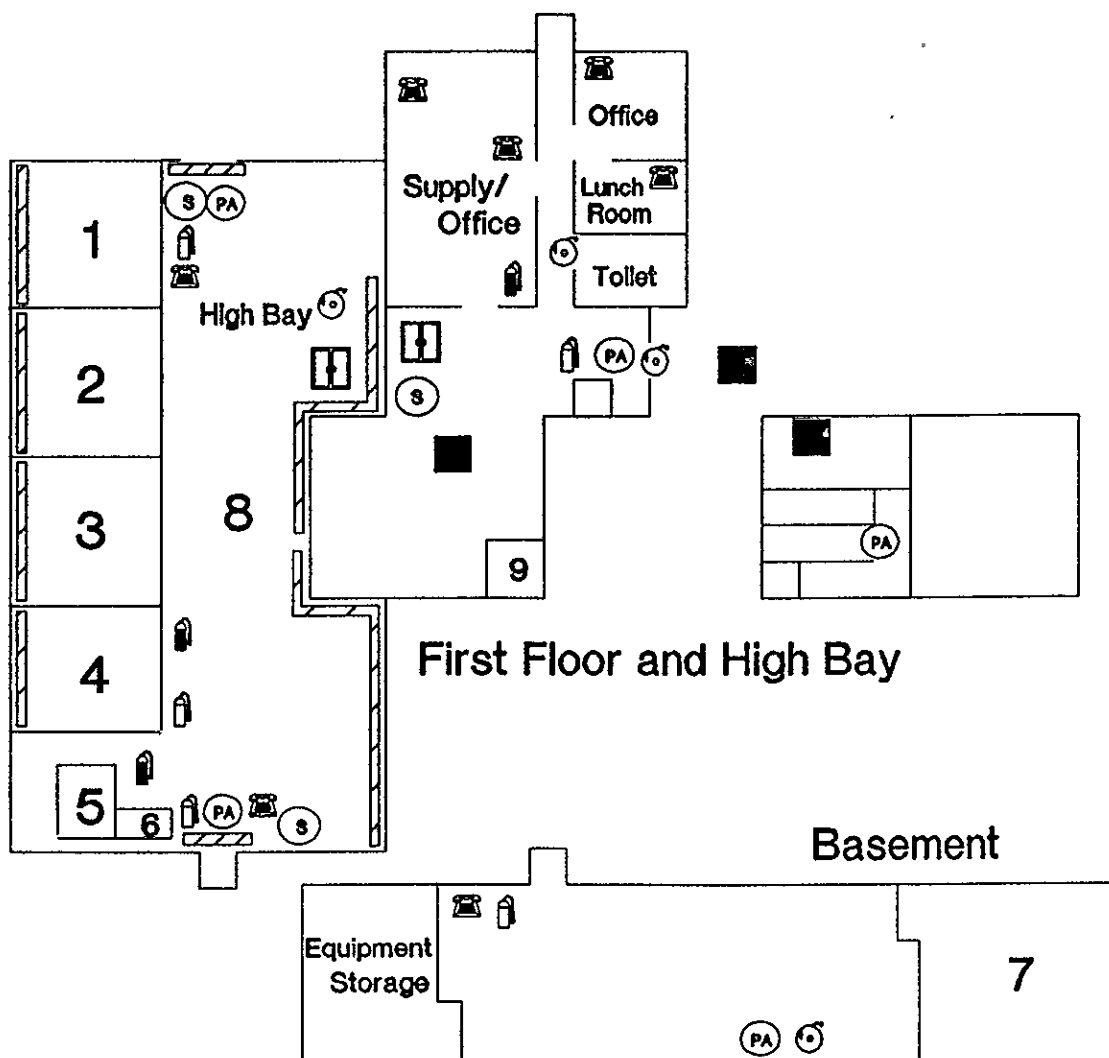
The 305-B Storage Facility is constructed of noncombustible materials and equipped with an automatic fire suppressant sprinkler system. A fire extinguisher is located in each working area in accordance with NFPA codes. Each Class ABC extinguisher is capable of suppressing fires involving ordinary combustible materials, flammable liquids, oils, paints, flammable gases, and fires involving electrical equipment. Each Halon extinguisher is capable of extinguishing fires involving flammable metals in addition to those fires involving combustible materials, flammable liquids, flammable gases, and electrical equipment fires. All extinguishers comply with the National Fire Code Standards for portable extinguishers and are inspected monthly by the building manager. The inspections are recorded on tags attached to each extinguisher.

7.5.3 Other Emergency Equipment

Other emergency equipment at 305-B includes two approved fixed and one portable emergency shower/eye-wash units, absorbent pillows, industrial absorbent, neutralizing absorbent, and a generous supply of protective clothing and equipment. The fixed 305-B emergency shower/eye-wash units are located just inside the 305-B high bay area near the north and south doors and the portable emergency shower/eye wash unit is located outside of the east high bay doors. Ambulance response to the facility from the 300 Area Fire Department is less than 5 minutes and provides emergency first-aid if needed.

Supplies of absorbent pillows are located in the operating area. These pillows are nonspecific (for acids or bases), and each will absorb approximately one liter of waste. The work area is also provided with a large supply of diatomaceous earth, which is a standard industrial absorbent for cleaning up spills of oil, solvents, and aqueous materials. Neutralizing absorbent is available for absorbing acids or caustics. Table 6-2 summarizes the material available for spill containment and cleanup.

Protective clothing and equipment are provided to safeguard employees during normal and emergency operations. Protective eyewear, coveralls, and gloves are the minimum protective clothing to be worn. Protective clothing inventoried at the facility includes:



LEGEND

- | | |
|---------------------------------|---------------------------------|
| 1 Acids, Oxidizers | (S) Safety Shower/Eyewash |
| 2 Poisons, ORM | ☎ Phone |
| 3 Caustics, Non-regulated, WSDW | 🔔 Fire Alarm Bell |
| 4 Hydrocarbons | (PA) Fire Alarm Pull Box |
| 5 Liquid Bulking Module | 🔥 14 lb Halon Fire Extinguisher |
| 6 Asbestos Cabinet | 🔥 10 lb ABC Fire Extinguisher |
| 7 RMW Storage Cell | 🚪 Removable Access to Basement |
| 8 High Bay Floor Storage | 🚪 Emergency Equipment Cabinet |
| 9 Small Quantity Flammable RMW | 🚰 Collection Sumps |

Figure 7-3. 305-B Storage Facility Emergency Equipment Locations.

- 50 plastic aprons
- 6 pairs of rubber boots
- 100 pairs of disposable plastic gloves
- 10 pairs of non-disposable gloves
- 12 chemical resistant suits
- 20 pairs of extra protective eyeglasses
- 3 SCBA emergency escape units
- 5 pairs of chemical goggles
- 6 face shields
- 4 full-face respirators with appropriate cartridges.

This protective equipment is stored in cabinets located outside of the operating area east entrance. Personnel assigned to 305-B are available to assist other trained personnel (e.g., firefighters) in emergency situations or possible Immediately Dangerous to Life or Health (IDLH) spill cleanup situations.

7.5.4 Hanford Site Emergency Equipment

The Hanford Site has fire and patrol personnel trained and equipped to respond to emergencies. WHC provides the fire and patrol services for the Hanford Site. The Hanford Fire Department's Hazardous Material Response Team is trained for mobilization and control of hazardous material emergencies. The Hanford Fire Department will take control of the event scene until the emergency incident is under control and personnel rescue is complete. A list of hazardous material equipment for hazardous material response available from the Hanford Fire Department is given in Appendix 6A.

The Hanford Patrol provides support to the Fire Department during an emergency incident, including but not limited to, activation of area crash alarm telephone systems and area sirens (for evacuation or take cover), access control, traffic control, and emergency notifications.

If an emergency threatens other facilities and/or there is a danger of release of dangerous material to the environment, the 300 Area and/or the 3000 Area ECC will be activated. The ECC will:

- Provide any assistance requested by the BED, who has the responsibility for the emergency at the event site and field control point
- Coordinate protective response actions and notifications
- Furnish technical assistance, if necessary.

7.6 COORDINATION AGREEMENTS [G-6]

This section describes the coordination agreements for emergency response of both on-site and off-site entities. The DOE-RL and its contractors have established arrangements to coordinate response to Site emergencies. The familiarity of the contractors with the Hanford Site allows them to assist in an emergency with a minimum amount of direction.

1 The Memorandum of Understanding (MOU) among WHC, PNL, Kaiser Engineers Hanford,
2 and HEHF defines the interfaces and notifications required for on-site
3 contractors during an emergency. The DOE-RL has overall responsibility for
4 emergency preparedness. Per the MOU, WHC has the responsibility for Site-wide
5 emergency preparedness. Each contractor has the responsibility for emergency
6 preparedness at facilities they operate for DOE-RL.

7
8 Memoranda of Understanding have been established to reduce the impact to human
9 health and the environment in the event that a Hanford Site emergency has off-
10 site public health implications or if an on-site emergency warrants off-site
11 assistance.

12 13 7.6.1 Local, State, and Federal Authorities

14
15 Various Memoranda of Understanding have been established among the DOE-RL and
16 Benton County, Franklin County, Grant County, and the states of Washington and
17 Oregon. These Memoranda of Understanding describe the cooperative agreements
18 between DOE-RL and these state and local authorities for any on-site emergency
19 that warrants off-site assistance, and they describe the planning for,
20 communication of, and response to emergencies at the Hanford Site that might have
21 off-site consequences.

22 23 7.6.2 Hanford Fire Department

24
25 The Hanford Fire Department provides fire department services for the Hanford
26 Site. Mutual aid agreements have been established with the local Tri-Cities
27 (Richland, Kennewick, and Pasco) fire departments; Benton County Fire Districts
28 1, 2, and 4; Franklin County Fire District 3; and Walla Walla Fire District 5 for
29 support to the Hanford Fire Department. In events where fire and/or smoke
30 threatens more than one facility, the area ECC is activated at a minimum.

31 32 7.6.3 Medical and First Aid

33
34 Professional medical help is currently provided by HEHF for the entire Hanford
35 Site. Doctors and/or nurses currently are available for emergency assistance at
36 all times. The medical personnel are trained to work with personnel who have
37 been exposed to dangerous and radioactive material. Emergency call lists ensure
38 the availability of professional medical care at all times. A nurse is on duty
39 in each of the 100, 200, and 300 Areas at all times.

40
41 Hospital services are available at Kadlec Medical Center in Richland, Washington,
42 with backup service at Kennewick General Hospital in Kennewick, Washington, and
43 Our Lady of Lourdes Health Center in Pasco, Washington.

44 45 7.6.4 Ambulance Service

46
47 Ambulance service is provided by the Hanford Fire Department, which has qualified
48 emergency medical technicians as attendants. This service is available from each
49 area fire station on a 24 hour basis. Additional ambulances are available when
50 needed from other fire stations and from other local fire departments under
51 mutual aid agreements.

1 In addition, an MOU has been established with the City of Richland for providing
2 backup ambulance service.

4 7.6.5 Unified Dose Assessment Center

5
6 The Unified Dose Assessment Center is the technical extension of the DOE-RL/EACT,
7 providing services to both DOE-RL/EACT and the ECC. The primary mission of the
8 Unified Dose Assessment Center is to provide recommendations for protective
9 actions, dose calculations and projections, and consultation in the area of
10 industrial hygiene (dangerous materials), biology, environmental monitoring, and
11 meteorology to support the DOE-RL/EACT and the ECC.

12
13 Industrial hygiene and biological consultants at the Unified Dose Assessment
14 Center advise and assist in proper response procedures for spills or releases of
15 toxic, flammable, carcinogenic, and pathogenic materials. The Assessment Center
16 staff are tasked to provide a central unified assessment of the dispersion and
17 impact of atmospheric releases from the Hanford Site. Through communication with
18 the ECC, the staff coordinates the assessment of impacts and assists in
19 determination of actual and potential release source terms.

21 7.6.6 Hanford Patrol

22
23 The Hanford Patrol serves as the security and enforcement agency for the Hanford
24 Site. In the event of an emergency, the Hanford Patrol provides services that
25 may include activating the crash alarm systems and area sirens, coordinating the
26 movement of emergency personnel through security gates, assisting evacuation
27 activities, establishing barricades where needed, and making necessary
28 notifications through the point of contact. The Hanford Patrol has a large
29 inventory of security response equipment. Various Memoranda of Understanding
30 have been established with local Tri-Cities police departments to provide
31 additional backup capabilities.

33 7.6.7 River Evacuation

34
35 An MOU has been established among the DOE-RL, the Washington Public Power Supply
36 System (WPPSS), Benton and Franklin Counties, and the Thirteenth Coast Guard
37 District to ensure safety on the Columbia River during a nuclear emergency at the
38 Hanford Site and to coordinate a river evacuation.

40 7.6.8 Meteorological Information

41
42 An agreement has been established between the DOE-RL and the National Weather
43 Service, Washington Area, that defines the mutual responsibilities for providing
44 meteorological information in an emergency situation.

46 7.6.9 Washington Public Power Supply System

47
48 An MOU has been established between the DOE-RL and WPPSS for providing mutual
49 assistance as needed and available in the use of facilities and equipment for
50 personnel decontamination, first aid, evacuation and reassembly areas,
51 respiratory protective equipment, protective clothing, radiological surveying
52 equipment, resources for river evacuation, and radiological assistance response.

7.7 EVACUATION PLAN [G-7]

All Hanford Site facilities have evacuation plans which include emergency signal identification, staging area location and, if required, plans for the use of the standby evacuation buses. The 305-B personnel must evacuate the premises and report to the accountability area in the north parking lot. Building evacuation doors are shown in Figure 7-4.

Four warning signals are currently in use at the Hanford Site. First, a gong signal is activated to inform personnel to evacuate the building and move upwind. Second, a steady siren is activated to inform workers that an alert/evacuation is occurring. People are required to meet at their assembly area(s) for instructions upon hearing the steady siren. Third, a wavering siren requires people to stay under cover. This siren may be used to protect personnel from radioactive fallout, dangerous material releases, adverse weather, etc. Fourth, activation of the howler (aa-oo-gah) is used to signal personnel of a criticality. The criticality alarm is not strictly applicable to 305-B because fissile materials are not stored or handled in the facility. Such materials are handled in some neighboring facilities in the 300 Area, however, and the potential exists for a criticality to occur in these facilities. In the event this signal is activated, personnel inside the 305-B Storage Facility should follow the "take cover" procedure and wait for further instructions.

7.8 REQUIRED REPORTS [G-8]

The requirements for submission and retention of reports for an emergency incident are described in internal PNL procedures for off-normal event reporting. PNL policy states that unusual occurrences shall be promptly investigated, reported, and analyzed to ensure that effective corrective actions are taken in compliance with contractual, statutory, and corporate requirements. Four levels of reporting are required, depending on the extent of the emergency: event fact sheets, off-normal event reports, unusual occurrence reports, and log book entry.

An event is a significant deviation from normal operation that may or may not be reportable as an unusual occurrence. PNL management is required to evaluate an event to determine the depth of investigation and level of reporting.

An off-normal event report is an evaluation of those events that PNL management has determined require investigation beyond that identified in the event fact sheet. An unusual occurrence is an event outside normal operations that causes or risks serious injury to personnel or has a significant effect upon the safety, reliability or cost of reactors, programmatic facilities or associated equipment, or upon the programs conducted therein. Unusual occurrences may arise during development, fabrication or construction, as well as during operation and maintenance.

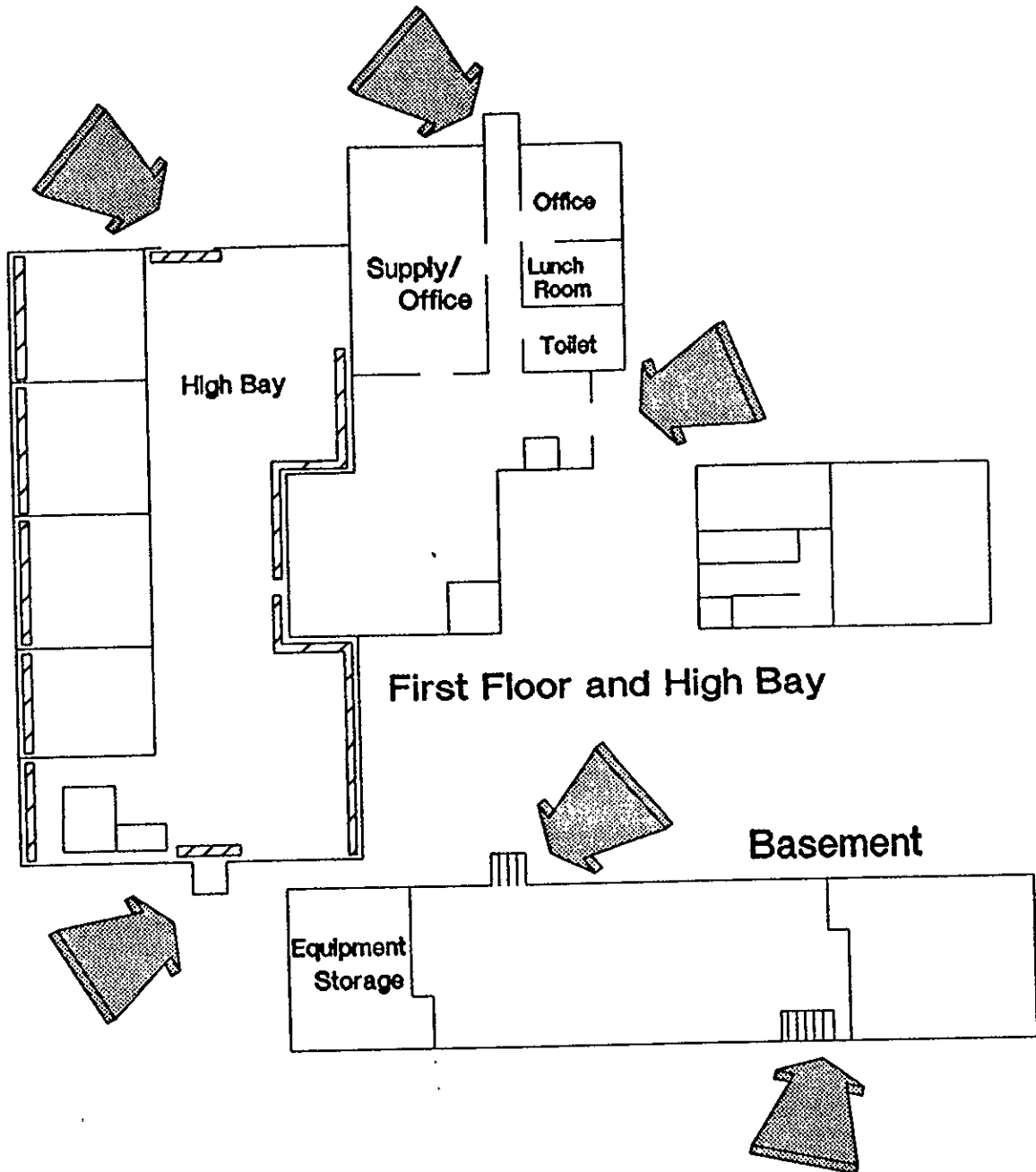


Figure 7-4. 305-B Evacuation Exits.

1 The BED is responsible for investigating each event in his/her area(s) of
2 responsibility and submitting the appropriate report. The BED or alternate must
3 ensure that any event which requires implementation of the contingency plan is
4 reported to Ecology and the National Response Center through DOE-RL. The BED
5 must also ensure that Ecology is notified through DOE-RL when the facility
6 returns to compliance prior to resumption of waste management activities. The
7 notification will indicate that cleanup procedures are completed and that
8 emergency equipment is cleaned and fit for its intended use.
9

10 7.9 CONTINGENCY PLAN LOCATION

11 Copies of the 305-B contingency plan are maintained at the following locations:
12

- 13 ■ The 305-B Storage Facility
- 14
- 15 ■ The 300 Area Fire Station
- 16
- 17 ■ The 300 Area ECC
- 18
- 19 ■ The DOE-RL/EACT room, located in the Federal Building, Richland,
- 20 Washington.
- 21
- 22
- 23

CONTENTS

8.0	PERSONNEL TRAINING [H]	8-1
8.1	OUTLINE OF TRAINING PROGRAM [H-1]	8-1
8.1.1	Job Titles and Job Descriptions [H-1a]	8-1
8.1.2	Training Content, Frequency, and Techniques [H-1b]	8-2
8.1.3	Training Director [H-1c]	8-2
8.1.4	Relevance of Training to Job Position [H-1d]	8-2
8.1.5	Training for Emergency Response [H-1e]	8-3
8.2	IMPLEMENTATION OF TRAINING PROGRAM [H-2]	8-5

90117310269

8.0 PERSONNEL TRAINING [H]

The information contained in this chapter outlines the Personnel Training Program for PNL personnel associated with the operation of the 305-B Storage Facility. The program is instituted in accordance with WAC 173-303-330.

8.1 OUTLINE OF TRAINING PROGRAM [H-1]

The training program for personnel at 305-B is instituted to meet the requirements of WAC 173-303-330. Laboratory Training of PNL combines classroom instruction and on-the-job training to teach all personnel to perform their duties (specific to each job classification) in a way that ensures the facility's compliance with WAC 173-303, teach personnel dangerous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed, and ensure that personnel are able to respond effectively to emergencies.

8.1.1 Job Titles and Job Descriptions [H-1a]

The Facility Operating Supervisor is responsible for the daily operation of 305-B in compliance with regulations administered under RCRA, the State of Washington Dangerous Waste Regulations (WAC 173-303), and PNL waste operating procedures.

The Facility Operating Supervisor is ultimately responsible for assessing 305-B compliance, conducting inspections and overseeing any corrective actions which may result from them, assuring waste handling and storing procedures are followed, and serving as BED to implement proper emergency procedures when necessary. In addition to the responsibilities mentioned above, it is the role of the Facility Operating Supervisor to direct new employees so that successful completion of introductory and on-the-job training will be accomplished in the first six months of employment.

The RMW Waste Management Engineer is responsible for the mixed waste operation of 305-B. This staff member must review all mixed waste disposal requests and assure their accuracy and reliability. In addition, the RMW Waste Management Engineer will dispense a pickup team and oversee mixed waste pickup and transportation to the 305-B Storage Facility. When adequate volumes of mixed waste have accumulated to warrant disposal of the waste, the RMW Waste Management Engineer is responsible for readying the waste for shipment. These duties include packaging, labeling, manifesting, and recordkeeping.

In addition to managing mixed waste operations, the RMW Waste Management Engineer serves as the alternate Building Emergency Director for 305-B. In the absence of the BED, the alternate must initiate all emergency actions as necessary.

The Compliance Waste Management Engineer is responsible for evaluating facility compliance, managing the PNL PCB waste stream, managing the waste designation data base, and overseeing waste designation.

Waste Management Technical Specialists and technicians assist in the operation of 305-B. The persons in these positions are responsible for assisting all

1 management in their efforts of packaging, labeling, and preparing wastes for
2 shipment to disposal facilities and will assist in any sampling activities and/or
3 waste pickups. These staff members will also serve as zone wardens for 305-B in
4 the event of an off-normal event or an emergency. As zone warden, the primary
5 responsibility is to account for the safe evacuation of plant personnel and
6 report this to the BED.

7
8 A list of the personnel filling the above mentioned positions as of December 15,
9 1989, and detailed job descriptions can be found in Appendix 8A. The personnel
10 list will be updated as the names of responsible personnel change.

11 12 8.1.2 Training Content, Frequency, and Techniques [H-1b]

13
14 A number of WM&EC, Facility Operations, and Health and Safety training courses
15 are required of 305-B personnel on an annual basis. A brief description of those
16 courses required by each job classification is given in Appendix 8A.

17
18 New employees at 305-B must successfully complete the training program within 6
19 months after their employment at or assignment to the facility. At a minimum,
20 the training familiarizes personnel with emergency equipment and procedures,
21 facility operations, and Occupational Safety and Health Administration (OSHA)
22 regulations.

23 24 8.1.3 Training Director [H-1c]

25
26 Training at PNL is provided by a number of specialists in their fields, including
27 a training director from the waste management organization who is responsible for
28 dangerous waste training. The position of training director is filled by an
29 engineer or scientist having "hands-on" experience with handling chemical wastes
30 and training a wide variety of PNL personnel (from lab technicians to the
31 Director of PNL). PNL also has a dedicated staff who track and monitor all
32 training for PNL employees. This coordination includes a system for "flagging"
33 affected employees when additional training and/or followup is warranted.

34 35 8.1.4 Relevance of Training to Job Position [H-1d]

36
37 Titles, job descriptions, and requisite qualifications of personnel involved in
38 operating 305-B are set forth in Appendix 8A. All training is relevant to the
39 positions in which the facility personnel are employed and is to accomplish the
40 following goals:

- 41
42 ■ Teach personnel to perform their duties in accordance with WAC 173-303
- 43
44 ■ Teach dangerous waste management procedures including contingency plan
45 implementation
- 46
47 ■ Ensure that personnel are able to respond effectively to emergencies.

48
49 Training is tracked and documented by Laboratory Training Coordination in the
50 Research Technology Laboratory (RTL) Building on George Washington Way. Training
51 records and class documentation are held on file in the waste management

1 operations office in 305-B as part of the Operating Record. The waste
2 organization manager is responsible for assuring the necessary training is
3 provided to the 305-B staff.
4

5 8.1.5 Training for Emergency Response [H-1e] 6

7 Training is adequate to ensure that personnel are able to respond effectively to
8 emergencies and are familiar with emergency procedures, emergency equipment, and
9 emergency systems. Emergency response training includes, but is not limited to:

- 10 ■ Using, inspecting, repairing, and replacing facility emergency and
11 monitoring equipment
- 12 ■ Activating and responding to communications and alarm systems
- 13 ■ Response to fires and explosions
- 14 ■ Shutdown of operations.

15
16
17
18
19
20 Procedures for Using, Inspecting, Repairing, and Replacing Facility Emergency and
21 Monitoring Equipment. Personnel operating 305-B are adequately trained to ensure
22 prompt and effective response to emergency situations that may arise during
23 operation of the facility. The following required safety courses outline
24 procedures for using, inspecting, repairing, and replacing facility emergency and
25 monitoring equipment.

- 26 ■ Building Emergency Preparedness - conducted annually or when changes are
27 made, whichever is more frequent, and familiarizes the employee with the
28 written contingency plan and specific responsibilities of emergency
29 procedures.
- 30 ■ Hand-Held Radio Operator - conducted initially, this briefing makes
31 the employee familiar with the operation of the hand-held and truck
32 mounted radio for both everyday and emergency operation. This briefing
33 also includes a discussion on radio etiquette.
- 34 ■ General Radiation Safety (SAF-RS-002) - conducted on a biannual basis,
35 this course gives staff members a basic understanding of some of the
36 characteristics of radiation, associated biological effects of radiation
37 exposure, contamination, monitoring equipment, warnings and alarms.
- 38 ■ NCRP Report 39 (SAF-RS-100) - conducted initially for all female staff,
39 this briefing informs the female radiation worker of the potential
40 hazards of radiation to females of reproductive age.
- 41 ■ Respiratory Protection (SAF-RP-001) - conducted annually, the course
42 familiarizes the operating staff with the proper use of air purifying
43 respirators and their limitations. It also makes the staff aware of
44 potential respiratory hazards, how to recognize them, and what actions
45 to take.

- 1 ■ Treatment, Storage, or Disposal (TSD) Facility Operator Safety
2 (SAF-WM-005) - consists of 40-hour initial training and an
3 8-hour annual refresher. This course provides extensive instruction on
4 the use of field survey instruments such as combustible gas indicators,
5 oxygen meters, detector tube systems, photo and flame ionization
6 instruments, organic vapor analyzer (OVA) meters, and atmospheric
7 sampling instruments. Other topics covered include heat-induced
8 illnesses, OSHA's Emergency Response Standards, lists of personal
9 protective equipment, hazardous materials classification systems,
10 confined space work practices, liquid storage tanks, contamination
11 control, toxicology, medical monitoring, and many others.
12
- 13 ■ SCBA - conducted annually, this 3-hour course is designed to instruct
14 the employee of the advantages and limitations of the SCBA equipment.
15 Key items covered include equipment inspection, modes of operation,
16 donning procedures, recognition and response to malfunctions,
17 maintenance and repair, and practical demonstrations.
18
- 19 ■ Fire Extinguisher Use - conducted biannually, this 30-minute hour course
20 consists of a videocassette, lecture, and reading materials. Its intent
21 is to familiarize all personnel with proper discharging, inspecting, and
22 maintenance procedures for fire extinguishers to be used for an
23 emergency.
24
- 25 ■ General Safety Protocol for Storage of Waste Carcinogenic Chemicals -
26 required reading for all staff of the 305-B Storage Facility. This
27 document outlines general recommendations for methods of receiving,
28 methods of control, segregation of carcinogens, methods and areas of
29 use, personal protection, waste disposal, emergency plans, inspections,
30 and recordkeeping.
31

32 Key Parameters for Automatic Waste Feed Cut-Off Systems. This section is not
33 applicable because there are no automatic waste feed systems at 305-B.
34

35 Communications or Alarm Systems. Personnel operating 305-B are properly trained
36 in both handling communication devices and alarm systems and recognizing alarm
37 sirens as to their meaning. A Hand-Held Radio Operator training course (outlined
38 above) is required to be a part of all employee training. In addition, the
39 Contingency Plan, also required reading for all the operating staff at 305-B,
40 details communication and alarm systems, as well as proper response to each
41 system during an emergency.
42

43 Response to Fires. Personnel at 305-B are adequately trained in response to
44 fires at the facility. All staff are trained annually in implementation of the
45 contingency plan which outlines each person's immediate and sequential actions in
46 case of a fire emergency. In addition, all staff receive training for proper
47 handling, maintenance, and discharge of on-site fire extinguishers, and proper
48 activation of alarm and fire suppressant systems.
49

50 Response to Groundwater Contamination Incidents. This section is not applicable
51 because groundwater monitoring is not required at 305-B.
52

1 Shutdown of Operations. Procedures for shutdown of operations of 305-B because
2 of an emergency situation are outlined in the contingency plan. As mentioned
3 previously, all staff are trained annually in implementation of the contingency
4 plan. The person responsible for the decision to shut down is the BED or
5 alternate.
6
7

8 8.2 IMPLEMENTATION OF TRAINING PROGRAM [H-2] 9

10 The training program is currently being implemented. All employees will receive
11 training within six months of their date of hire or their transfer to a new
12 position. Personnel will not work in unsupervised positions until they
13 successfully complete the training course. Records of each individual's formal
14 training are maintained at the 305-B facility; backup files are kept at the
15 office of the Laboratory Training Coordinator in the RTL Building on George
16 Washington Way. Training records of current employees will be kept until closure
17 of the facility. Records of former employees are kept for at least three years
18 from the date the employee last worked at the facility.
19

20 The training outline is on file in the Laboratory Training Coordination office
21 and is available for review by all waste handling and management personnel,
22 emergency response personnel, and all regulatory agencies. Provisions are made
23 for updating and reviewing courses, as necessary, to ensure compliance with WAC
24 173-303.
25

1
2
3
4
5

This page intentionally left blank.

5
4
3
2
1
0
-
8
7
6
5
4
3
2
1
0
-
9
8
7
6
5
4
3
2
1
0
-

CONTENTS

9.0 EXPOSURE INFORMATION REPORT	9-1
---	-----

90117910277

This page intentionally left blank.

49011810270

9.0 EXPOSURE INFORMATION REPORT

The 305-B Storage Facility does not store, treat, or dispose of hazardous waste in a surface impoundment or landfill as defined in 40 CFR 270.10. Exposure information report requirements under RCRA, Section 3019, therefore, are not applicable.

1
2
3
4
5

This page intentionally left blank.

0
8
2
0
1
8
7
1
0
6

CONTENTS

10.0	WASTE MINIMIZATION PLAN	10-1
10.1	REGULATORY BASIS	10-1
10.2	THE 305-B STORAGE FACILITY WASTE MINIMIZATION OBJECTIVES . .	10-1
10.3	WASTE GENERATORS	10-1
10.4	SPECIFIC WASTE MINIMIZATION PROCEDURES	10-2

10117010231

This page intentionally left blank.

10-11

10.0 WASTE MINIMIZATION PLAN

This chapter discusses the program to minimize the volume or quantity and toxicity of waste generated at the 305-B Storage Facility. The regulatory basis for, and objectives of, the waste minimization program are discussed. Waste generators are described and procedures for minimizing waste are discussed.

10.1 REGULATORY BASIS

The Hazardous and Solid Waste Amendments of 1984 to RCRA require that, whenever feasible, the generation of regulated hazardous waste be reduced or eliminated as expeditiously as possible. Section 3002(b) of RCRA requires certification of the following:

- The generator of the hazardous waste has in place a program to reduce the volume or quantity and toxicity of such waste to the degree determined by the generator to be economically practicable
- The proposed method of treatment, storage, and/or disposal is that practicable method currently available to the generator that minimizes the present and future threat to human health and the environment.

This chapter provides the means to certify that a waste minimization program is in place for the 305-B Storage Facility.

10.2 THE 305-B STORAGE FACILITY WASTE MINIMIZATION OBJECTIVES

The 305-B facility waste minimization program is tied to the overall waste minimization program for the Hanford Site. The 305-B waste minimization program includes all practices that reduce, avoid, or eliminate dangerous waste generation.

The 305-B waste minimization program objectives are to:

- Minimize the volume of dangerous waste generated
- Segregate dangerous waste from nondangerous waste if practicable.

Annually, a certification as required by 40 CFR 264.73(b)(9) will be placed in the 305-B facility Operating Record stating that a waste minimization program is in place. In addition, a Hanford Site-wide biennial report is made to the EPA containing a description of efforts made to minimize waste and a certification that a waste minimization program is in place. The report will include information on the 305-B facility's waste minimization program.

10.3 WASTE GENERATORS

The 305-B facility waste minimization program is designed to avoid or reduce the amount or toxicity of dangerous waste generated. Waste generated at the 305-B

1 facility is managed aggressively to minimize the total volume. Sources of waste
2 at the 305-B facility are as follows:

- 3
- 4 ■ Spills/spill cleanup
- 5 ■ Nonprocess waste such as office refuse.
- 6

7 Section 10.4 discusses the methodology used to minimize this waste.

10 10.4 SPECIFIC WASTE MINIMIZATION PROCEDURES

11
12 As stated previously, the 305-B facility is a storage facility receiving waste
13 generated at other locations on the Hanford Site until the waste can be
14 transported to a permitted offsite treatment, storage, and/or disposal facility.
15 The 305-B Storage Facility does not exercise direct control over the quantities
16 of wastes generated at Hanford.

17
18 Waste generated at the 305-B facility, while minimal, is managed to ensure that
19 the quantity and toxicity are minimized.

20
21 PNL has an operating procedure for the disposal of facility-generated waste,
22 which includes proper responses for cleanup after dangerous waste spills. The
23 response to dangerous waste spills is aimed at minimizing liquid and material
24 used during spill cleanup.

25
26 Liquid accumulation in the containment systems is sampled to ensure that a
27 nondangerous substance exists so that the liquid can be disposed of to the 300
28 Area Process Sewer. If the liquid is found to be dangerous, the material is
29 packaged and shipped as a dangerous waste. In either case, liquid in the
30 containment system is sampled and emptied in a rapid and proper manner to
31 minimize the potential mixing of nondangerous waste with dangerous waste, thereby
32 reducing the total volume.

33
34 Housekeeping and surveillance activities are performed daily to properly clean
35 the facility in order to minimize the potential for dangerous waste generation.
36 Floors in the operating area of the facility are cleaned using only dry sweeping
37 compounds and/or damp mops. The use of free liquid or running water is not
38 permitted without permission of the facility supervisor.

39
40 Waste, such as office refuse, is segregated from the regulated dangerous waste
41 stored at the facility and disposed of in a sanitary landfill located on the
42 Hanford Site. This segregation procedure reduces the volumes of waste that must
43 be treated as dangerous waste.
44

CONTENTS

11.0	CLOSURE AND POST-CLOSURE REQUIREMENTS [I]	11-1
11.1	CLOSURE PLANS [I-1]	11-1
11.1.1	Closure Performance Standard [I-1a]	11-1
11.1.2	Partial and Final Closure Activities [I-1b]	11-2
11.1.3	Maximum Waste Inventory [I-1c]	11-2
11.1.4	Inventory Removal, Disposal or Decontamination of Equipment, Structures, and Soils [I-1d]	11-2
11.1.4.1	Inventory Removal	11-2
11.1.4.2	Decontamination of Building Equipment	11-4
11.1.4.3	Management of Decontamination Wastes	11-7
11.1.4.4	Methods For Sampling And Testing To Demonstrate Success Of Decontamination	11-8
11.1.4.5	Closure of Containers [I-1d(1)]	11-8
11.1.4.6	Closure of Tanks [I-1d(2)]	11-9
11.1.4.7	Closure of Waste Piles [I-1d(3)]	11-9
11.1.4.8	Closure of Surface Impoundments [I-1d(4)]	11-9
11.1.4.9	Closure of Incinerators [I-1d(5)]	11-9
11.1.4.10	Closure of Land Treatment Facilities [I-1d(6)]	11-9
11.1.5	Closure of Disposal Facilities [I-1e]	11-9
11.1.6	Closure Schedule [I-1f]	11-9
11.1.7	Extension of Closure Time Frame [I-1g]	11-9
11.1.8	Amendments to Closure Plan	11-11
11.2	CERTIFICATION OF CLOSURE	11-11
11.3	POST-CLOSURE PLAN [I-2]	11-12
11.4	NOTICE IN DEED [I-3]	11-13
11.5	CLOSURE COST ESTIMATE [I-4]	11-13
11.6	FINANCIAL ASSURANCE MECHANISM FOR CLOSURE [I-5]	11-13
11.7	POST-CLOSURE COST ESTIMATE [I-6]	11-13
11.8	FINANCIAL ASSURANCE MECHANISM FOR POST-CLOSURE CARE [I-7]	11-13
11.9	LIABILITY REQUIREMENTS [I-8]	11-13

CONTENTS (Cont'd)

FIGURES

11-1. Detailed Schedule of Closure	11-10
--	-------

TABLES

11-1. Dangerous/Mixed Waste Allowable Inventory.	11-3
--	------

20110285

11.0 CLOSURE AND POST-CLOSURE REQUIREMENTS [I]

This chapter is submitted in accordance with the requirements of WAC 173-303-610 to demonstrate that DOE-RL has developed a plan to assure safe closure of the 305-B facility. In accordance with WAC 173-303-610, copies of the closure plan and all revisions will be maintained at 305-B until certification of closure completeness has been submitted and accepted by Ecology. A post-closure plan is not required because 305-B is not a disposal facility and all dangerous wastes and dangerous waste residues will be removed at the time of closure.

11.1 CLOSURE PLANS [I-1]

This plan presents the activities required for final closure of the 305-B Storage Facility at its maximum extent of operation. The wastes included are those regulated as dangerous waste and RMW. Partial closure will not be conducted. Closure activities are presented in sufficient detail such that the closure process is understandable and a closure schedule can be developed.

11.1.1 Closure Performance Standard [I-1a]

The 305-B Storage Facility will be closed in a manner that will minimize the need for further maintenance and eliminate post-closure release of dangerous/mixed wastes or dangerous/mixed waste constituents which could pose a risk to human health or the environment. This standard will be met by removal of all dangerous/mixed wastes and dangerous/mixed residues from the facility.

Closure activities will return the 305-B site to the appearance and use of surrounding land areas. After closure, the 305-B facility will be in a condition suitable for use to support research and development activities. This use is consistent with the surrounding land use.

If there is any evidence of spills or leaks from the facility into the environment, samples will be taken and analyzed to determine the extent of contamination in the soil, and if necessary, in groundwater.

Any contaminated soil will be excavated, removed, and disposed of as dangerous or mixed waste (determination of dangerous or mixed waste status will be based upon waste radioactivity). Soil will be decontaminated to the following levels, as required under WAC 173-303-610(2)(b):

- Background environmental levels for wastes which are listed under WAC 173-303-081 or WAC 173-303-082
- Background environmental levels for wastes which are characteristic dangerous wastes under WAC 173-303-090
- Designation limits for wastes which are designated under WAC 173-303-084, or WAC 173-303-101 through WAC 173-303-103.

Equipment and structural components will be decontaminated using the procedures described in Section 11.1.4. All residues resulting from decontamination will be

1 removed from the facility and properly disposed of. Residue containing listed
2 wastes, having dangerous waste characteristics, or exceeding dangerous waste
3 designation limits will be disposed of as dangerous wastes.

4 11.1.2 Partial and Final Closure Activities [I-1b]

6 This plan identifies the steps necessary to perform final closure of the facility
7 in order to meet the aforementioned closure performance standard (Section
8 11.1.1). Closure activities involve removal of dangerous and mixed wastes from
9 the facility and decontamination of the facility. These activities can be
10 implemented at any point during the active life of the facility. Partial closure
11 of the facility will not be conducted. The entire 305-B Storage Facility will be
12 in use at all times prior to closure. The entire facility, therefore, represents
13 the maximum extent of the operation which will be unclosed during the facility's
14 active life.

16 11.1.3 Maximum Waste Inventory [I-1c]

17 The 305-B Storage Facility is used to store a variety of different research-
18 related wastes. The maximum inventory of wastes in storage at any time will be
19 constrained by three factors:

- 21 ■ The total amount of dangerous/mixed waste in storage at 305-B at any
22 time will not exceed the design capacity of 30,000 gal (it is
23 typically 2,000 to 5,000 gal)
- 24 ■ The total amount of any particular dangerous/mixed waste in storage
25 during any given year will not exceed the amounts given in the Part A
26 permit application for 305-B (see Table 11-1)
- 27 ■ The total amount of dangerous/mixed waste by hazard class in storage at
28 any one time will not exceed Uniform Building Code Class B Hazardous
29 Material Quantity Restrictions (see Table 6-3).

31 Except on the relatively rare occasion when 85-gal overpacks are used,
32 approximately 90% of all dangerous wastes shipped from the facility are contained
33 in 55-gal drums, with the remaining 10% consisting of 30-gal and smaller
34 containers.

36 11.1.4 Inventory Removal, Disposal or Decontamination of Equipment, 37 Structures, and Soils [I-1d]

38 Steps for removing or decontaminating all dangerous/mixed waste containers,
39 residues, and contaminated equipment are described below.

41 11.1.4.1 Inventory Removal. Closure activities will be initiated by removal of
42 the dangerous/mixed waste inventory present at 305-B at the time of closure.
43 Inventory removal procedures will be identical to the waste handling, packaging,
44 and manifesting activities associated with normal operation of the facility.
45 All dangerous wastes present will be placed into proper containers according to
46 currently accepted waste handling procedures; mixed waste will be placed into
47 containers and meet Hanford specifications outlined in WHC-EP-0063, Hanford
48 Radioactive Solid Waste Packaging, Storage, and Disposal Requirements. To the
49

Table 11-1. Dangerous/Mixed Waste Allowable Inventory.

<u>Dangerous Waste No.</u>	<u>Kilograms of Waste</u>
D001	10,000
D002	5,000
D003	500
D004 through D006	200
D007	10,000
D008	50,000
D009	400
D010	50
D011	200
WT01	20,000
WT02	10,000
WP01	5,000
WP02	1,000
WP03	500
WC01 and WC02	1,000
F001 and F002	2,000
F003	3,000
F004	1,000
F005	2,000
F027	200
W001	5,000
U001 through U247	200
P001 through P123	200

1 extent possible, chemicals will be bulked into larger containers. If wastes are
2 bulked, containers will be emptied in compliance with WAC 173-303-160 so that
3 they are not dangerous wastes. Small quantity laboratory chemicals that cannot
4 be bulked will be packaged into labpack containers in compliance with the
5 requirements of WAC 173-303-161. All containers of dangerous/mixed waste will be
6 manifested and custody transferred to a dangerous waste transporter having a
7 proper dangerous waste identification number. Wastes will be transported to a
8 permitted dangerous waste facility for treatment or disposal.

9
10 11.1.4.2 Decontamination of Building Equipment. All equipment and structures in
11 dangerous/mixed waste handling and storage areas will be decontaminated at the
12 time of closure. Equipment and structures to be decontaminated include:

- 13
- 14 ■ Floors and walls of the four dangerous waste storage cells
- 15 ■ Floor of high bay and Uni-Lab areas
- 16 ■ Floor of RMW storage room
- 17 ■ Inside of all spill collection sumps
- 18 ■ Fork lift and loading hoist.
- 19

20 Decontamination of equipment and structures will take place as described below.
21 The magnitude of each phase of the operation and estimated time for completion
22 are included.

23
24 11.1.4.2.1 Decontamination of RMW Room. Once the RMW room has been completely
25 emptied of stored waste, swab samples will be collected at various points along
26 the floors, walls, and ceiling. The swab samples will be analyzed to determine
27 if the RMW storage area has been radioactively contaminated. Baseline smears
28 will have been documented prior to introduction of RMW. Radioactivity has been
29 selected as an indicator of contamination since it is present in the RMW and is
30 easily detected. Once the results from the testing are known, a decision can be
31 made as to the appropriate decontamination procedures.

32
33 If no contamination is found on the swab samples, decontamination procedures will
34 consist of dusting, vacuuming, and wiping with soap and water. Vacuuming is
35 performed using a commercial or industrial vacuum equipped with a high-efficiency
36 particulate air (HEPA) filter. The vacuum cleaner bag containing captured
37 particulates is disposed of as a dangerous waste.

38
39 Dusting/wiping is done with a damp cloth or wipe (soaked with water or solvent)
40 to remove dust from surfaces not practically treatable with a vacuum. The cloth
41 or wipe is also disposed of as a dangerous waste. Brushing or sweeping is used
42 to clean up coarse debris.

43
44 Minimal time will be required for setup of the equipment. Labor requirements for
45 the process should be moderate. Minimal time will also be required for packaging
46 debris and dismantling and removing cleaning equipment. Little wastewater (only
47 the contents of the buckets) will be generated by this procedure.
48

On the other hand, if contamination is found on the swab samples, more sophisticated decontamination procedures must be implemented. The entire RMW Storage room will be extensively treated via steam cleaning. The ceiling, all four walls, and the floor will be treated by applying steam from a hand-held wand to remove all residues from the surfaces. The contaminated wastewater generated by this activity will be contained by the designed spill controls already in place for waste storage areas. Pumps or vacuums will be used to empty the wastewater from the containment area into polyethylene-lined closed top drums. These containers will be transported for proper management at an approved dangerous waste or RMW TSD facility.

Although this procedure will require more time than the dusting, vacuuming, and wiping procedures outlined above, time requirements are still considered to be minimal for the steam cleaning approach. Wastewaters generated by this procedure are not anticipated to exceed 100 gal.

11.1.4.2.2 Decontamination of Waste Handling Equipment. All equipment will be decontaminated first by solvent washing followed by steam cleaning, or disposed of as dangerous waste at an approved disposal facility. The decision to dispose or decontaminate equipment will be made at the time of closure. Whichever option, in the opinion of the Building Supervisor, is most environmentally and economically feasible will be chosen. If the equipment is not considered to be substantially contaminated, the solvent washing may not be performed. In this case, the equipment will be cleaned by the steam cleaning technique only.

All equipment to be decontaminated will be placed in one of the fully contained storage cells and subjected to the solvent wash deemed most effective for the removal of the suspected contamination. The equipment is then subjected to a final washing and rinsing by a steam cleaning unit. All wastewaters will be collected in the storage cell sumps, pumped to polyethylene-lined closed top drums, and transported and disposed of as dangerous waste.

The time required for completion and wastewaters generated by these processes are largely dependent upon the amount of equipment which needs to be treated. However, at this time, minimal time and effort are anticipated. In addition, wastes to be generated are not anticipated to exceed 50 gal.

11.1.4.2.3 Decontamination of Dangerous Waste Storage Cells. Any visible contamination present in the storage cells will be scraped and/or swept until visibly clean. All residues obtained from the scraping/sweeping exercise will be placed in open top drums and disposed of as dangerous waste. Each of the four storage cells will be steam cleaned and the generated wastewaters collected in each of the storage cell's individual sumps. The wastewaters will be pumped from the sumps to polyethylene-lined closed top drums in preparation for disposal. No wastewaters will be mixed with scrapings, sweepings, or wastewaters from other storage cells. Each sump area will be re-rinsed with water. This water will similarly be pumped to containers for disposal.

1 The containerized wastewaters will be analyzed to determine if they are
2 designated as dangerous waste under WAC 173-303-070. If designated as dangerous,
3 the wastewaters will be handled, transported, and disposed of as dangerous waste.
4 If not dangerous waste, the wastewater will be discharged to the 300 Area process
5 sewer system.
6

7 Total decontamination of the storage cells should be completed in no more than 2
8 weeks. Each of the storage cells should have approximately 30 gal of wastewater
9 generated during the cleaning and rinsing process; therefore, a total of 120 gal
10 of wastewater will need to be analyzed and disposed of.
11

12 11.1.4.2.4 Decontaminate High Bay and Uni-Lab Areas. Swab samples will be
13 collected at various points along the floors, walls, and ceiling. The swab
14 samples will be analyzed to determine if the high bay area has been contaminated
15 with dangerous waste constituents. Once the results from the testing are known,
16 a decision can be made as to the appropriate decontamination procedures.
17

18 If no contamination is found on the swab samples, decontamination procedures will
19 consist of dusting, vacuuming, and wiping. Vacuuming is performed using a
20 commercial or industrial vacuum equipped with a HEPA filter. The vacuum cleaner
21 bag containing captured particulates is disposed of as a dangerous waste.
22

23 Dusting/wiping is done with a damp cloth or wipe (soaked with water or solvent)
24 to remove dust from surfaces not practically treatable with a vacuum. The cloth
25 or wipe is also disposed of as dangerous waste. Brushing or sweeping is used to
26 clean up coarse debris.
27

28 Minimal time will be required for setup of the equipment. Labor requirements for
29 the process should be moderate. Minimal time will also be required for packaging
30 debris and dismantling and removing cleaning equipment. Little wastewater (only
31 the contents of the buckets) will be generated by this procedure.
32

33 On the other hand, if contamination is found on the swab samples, more
34 sophisticated decontamination procedures must be implemented. The affected high
35 bay area will be extensively treated via steam cleaning. Areas of the ceiling,
36 all four walls, and the floor, as appropriate, will be treated by applying steam
37 with a hand-held wand to remove all residues from the surfaces. The contaminated
38 wastewater generated by this activity will be contained by the designed spill
39 controls already in place for the waste storage areas. Pumps will be used to
40 empty the wastewater from the containment area into polyethylene-lined closed top
41 drums. These containers will be transported for proper disposal at an approved
42 dangerous waste disposal facility.
43

44 Although this procedure will require more time than the dusting, vacuuming, and
45 wiping procedures outlined above, time requirements are still considered to be
46 minimal for the steam cleaning approach. Wastewaters generated by this procedure
47 are not anticipated to exceed 200 gal.
48

11.1.4.2.5 Decontamination of Sumps. All collection sumps located at 305-B, including those lining the storage cells on the west side of the facility, the sump along the east side inside wall, and those protecting the exits on the north and south ends, will be decontaminated by steam cleaning. Wastewaters collected in each sump from the implementation of the cleaning process will be pumped into polyethylene-lined closed top drums and analyzed as to whether or not they are designated as dangerous waste under WAC 173-303-070. If designated, they will be disposed of as dangerous waste. If they are not dangerous waste, the wastewaters will be discharged to the 300 Area process sewer system. The steam cleaning of all the sumps should take minimal time and generate approximately 100 gal of wastewater.

11.1.4.3 Management of Decontamination Wastes. Liquid decontamination wastes will be placed in drums and sampled to determine disposal requirements. Grab samples will be collected from drums using COLIWASA samplers. Grab samples from each drum will be analyzed for the following:

- Corrosivity using the methods described in Chemical Testing Methods for Complying with the Dangerous Waste Regulation (Ecology 1983), Appendix B, Attachments 1 (pH) and 2 (steel corrosion rate)
- Flash point using a Pensky-Martens Closed Cup Tester and ASTM Standard D-93-79 or D-93-80 or a Setaflash Closed Cup Tester and ASTM Standard D-3278-78
- Extraction procedure (EP) toxic metals as follows
 - Arsenic by inductively coupled plasma spectroscopy (ICP) using EPA Method 6010
 - Barium by ICP using EPA Method 6010
 - Cadmium by ICP using EPA Method 6010
 - Chromium by ICP using EPA Method 6010
 - Lead by ICP using EPA Method 6010
 - Mercury by cold vapor atomic absorption (AA) using EPA Method 7470
 - Selenium by furnace AA using EPA Method 7740
 - Silver by furnace AA using EPA Method 7761
- Volatile Organics by gas chromatography/mass spectrometry (GC/MS) using EPA Method 8240
- Semivolatile Organics by GC/MS using EPA Method 8270
- Organochlorine pesticides (endrin, lindane, methoxychlor, and toxaphene) by gas chromatography (GC) using EPA Method 8080
- Chlorinated herbicides (2,4-D, 2,4,5-TP) by GC using EPA Method 8150.

The results of sample analysis will be used to determine how to dispose of liquid decontamination wastes. The results of volatile and semivolatile organic

analysis will be used to determine the presence of potential listed (WAC 173-303-081 and WAC 173-303-082) dangerous waste constituents above background. (Background levels will be determined by analysis of the tap water used for makeup of the decontamination solutions.) Those liquid wastes with listed waste constituents above background will be designated as dangerous wastes. The results of the ignitability, corrosivity, metals, pesticides, and herbicides analyses will be used to determine if liquid wastes are characteristic dangerous wastes (WAC 173-303-090). Organic and inorganic analytical results will also be used to determine if liquid wastes are dangerous waste mixtures (WAC 173-303-084). These results will also be used to determine whether the wastes are LDR (WAC 173-303-140 and 40 CFR 268). The results of the radiological analyses will be used to determine whether any of the liquid wastes are low-level liquid radioactive wastes or radioactive mixed wastes. Depending on designation, liquid decontamination wastes will be disposed of as follows:

- Dangerous - Manifested and shipped to a permitted dangerous waste TSD facility
- Radioactive Mixed - Manifested and shipped to a permitted radioactive mixed waste TSD facility
- Low-level Radioactive - Discharged to the 300 Area liquid radioactive waste system
- Nonregulated - Discharged to the 300 Area process sewer system.

All non-liquid wastes generated during decontamination of dangerous waste storage areas and equipment (e.g., personnel protective clothing) will be collected in 55-gal open-head drums and managed as dangerous wastes. All non-liquid wastes generated during decontamination of RMW storage areas and equipment will be similarly collected and managed as RMW.

11.1.4.4 Methods For Sampling And Testing To Demonstrate Success Of Decontamination. A series of swab samples will be collected at various points along floors, walls, ceilings, and equipment of areas at which decontamination activities were conducted. These samples will be analyzed and used to verify whether decontamination procedures were effective. If any sample confirms contamination still exists, a higher order decontamination program will be designed and implemented until no contamination is found by the verification swab sampling.

11.1.4.5 Closure of Containers [I-1d(1)]. At closure, all containers will be removed from the 305-B facility. All dangerous waste residue will be removed from the containment system components. Contaminated equipment, floors, walls, and loading areas will be decontaminated or removed. All decontamination equipment and rinsate will be containerized, tested, and properly disposed of.

1 Sampling and analysis will be conducted to ensure that no contamination remains
2 around the storage area and containment system. Additional details for closure
3 and decontamination are provided in Sections 11.1.4.1 through 11.1.4.3.

4
5 **11.1.4.6 Closure of Tanks [I-1d(2)].** This section is not applicable to the
6 305-B Storage Facility because wastes are not stored or treated in tanks.

7
8 **11.1.4.7 Closure of Waste Piles [I-1d(3)].** This section is not applicable to
9 the 305-B Storage Facility because wastes are not stored in waste piles.

10
11 **11.1.4.8 Closure of Surface Impoundments [I-1d(4)].** This section is not
12 applicable to the 305-B Storage Facility because wastes are not placed in surface
13 impoundments.

14
15 **11.1.4.9 Closure of Incinerators [I-1d(5)].** This section is not applicable to
16 the 305-B Storage Facility because wastes are not incinerated.

17
18 **11.1.4.10 Closure of Land Treatment Facilities [I-1d(6)].** This section is not
19 applicable to the 305-B Storage Facility because wastes are treated in land
20 treatment units.

21
22 **11.1.5 Closure of Disposal Facilities [I-1e]**

23
24 This section is not applicable to the 305-B Storage Facility because it will not
25 be closed as a dangerous waste disposal facility.

26
27 **11.1.6 Closure Schedule [I-1f]**

28
29 The inventory of dangerous and radioactive mixed waste will be removed within 90
30 days from receipt of the final volume of such waste. All closure activities will
31 be completed within 180 days of receipt of the final volume of waste. The
32 Director of the Washington Department of Ecology will be notified by DOE-RL at
33 least 45 days before the final closure activities are begun. A detailed schedule
34 of closure activities is provided in Figure 11-1.

35
36 **11.1.7 Extension of Closure Time Frame [I-1g]**

37
38 The inventory of dangerous and radioactive mixed wastes will be removed from the
39 305-B Storage Facility within 90 days of receipt of the last volume of waste.
40 The closure activities described in this plan will be completed within 180 days
41 of receipt of the final volume of waste. No extension to the time frame for
42 initiation and completion of closure is currently expected to be necessary.
43 Extensions to the time frames for closure would only be necessary if unexpected
44 conditions were encountered during closure of the facility. If it becomes
45 apparent that all wastes cannot be removed within 90 days, Ecology will be so
46 notified at least 30 days prior to expiration of the 90 day period. This
47 notification will demonstrate why more than 90 days is required for removal of
48 the wastes and will demonstrate that steps have been taken to prevent threats to

11-10

PRE-CLOSURE ACTIVITIES

Receive Final Waste Volume

Notify EPA and Ecology

CLOSURE ACTIVITIES

Removal of Waste Inventory

Decontamination Procedures

Swab Samples

Swab Sample Analysis

Decon Procedures

Management of Decon Waste

Waste Analysis

Waste Disposal

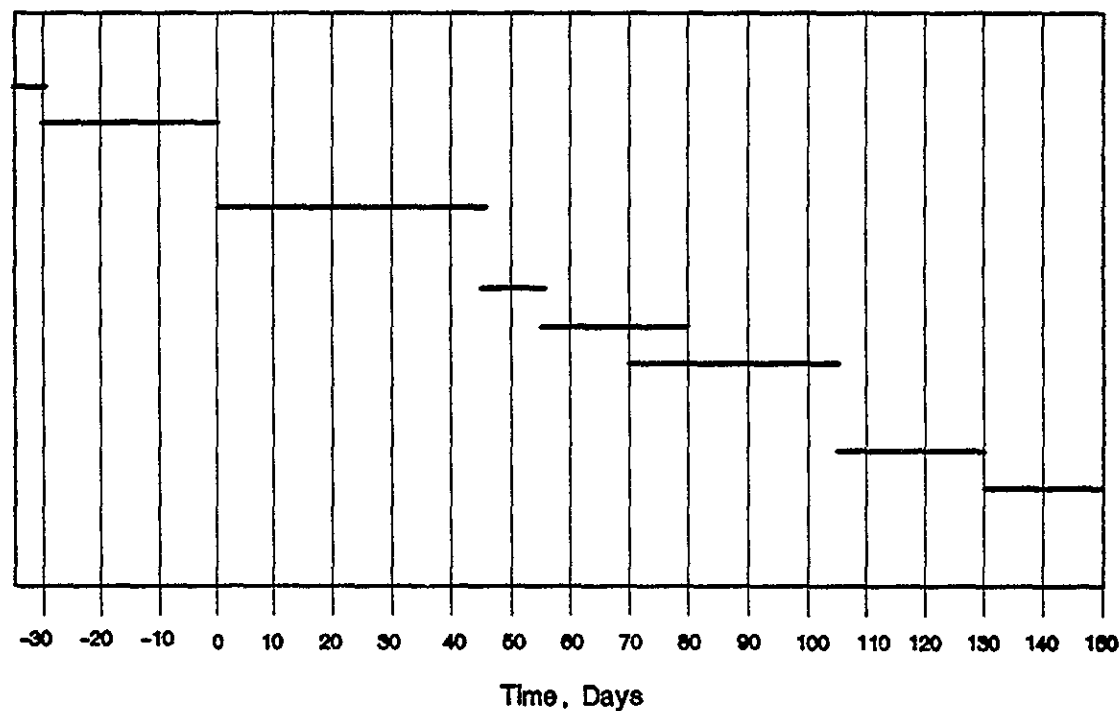


Figure 11-1. Detailed Schedule of Closure.

1 human health and the environment and that the facility is in compliance with
2 applicable permit standards. If it becomes apparent that closure cannot be
3 completed within 180 days after approval of this plan, Ecology will be so
4 notified at least 30 days prior to expiration of the 180 day period. This
5 notification will demonstrate why more than 180 days is required for closure and
6 will demonstrate that steps have been taken to prevent threats to human health
7 and the environment and that the facility is in compliance with applicable permit
8 standards.

11.1.8 Amendments to Closure Plan

11 If changes are deemed necessary to the approved closure plan, DOE-RL will submit
12 a written request to Ecology for authorizing a change to the approved plan. The
13 written request will include a copy of the amended plan, in accordance with WAC
14 173-303-610(3)(a).
15

11.2 CERTIFICATION OF CLOSURE

16 Within 60 days of completion of the final closure activities described in this
17 plan, a certification of closure will be submitted to Ecology. This
18 certification will indicate that the 305-B Storage Facility has been closed as
19 described in this plan and that the closure performance standards given in
20 Section 11.1.1 have been met. The certification will be submitted by registered
21 mail and will be signed by DOE-RL and an independent Professional Engineer
22 registered in the State of Washington as described below.
23

24 The DOE-RL will self-certify with the following document or a document similar to
25 it:
26

27 I, (name), an authorized representative of the U.S. Department of
28 Energy-Richland Operations Office located at the Federal Building,
29 825 Jadwin Avenue, Richland, Washington, hereby state and certify
30 that the 305-B Storage Facility at the 300 Area, to the best of my
31 knowledge and belief, has been closed in accordance with the attached
32 approved closure plan, and that the closure was completed on (date).
33 (Signature and date).
34

35 The DOE-RL will engage an independent Professional Engineer registered in the
36 State of Washington to inspect closure activities, verify that closure activities
37 are being conducted according to this plan, and certify that closure has been
38 performed in accordance with this plan.
39

40 The engineer will inspect 305-B at least weekly while closure activities are
41 being performed. During these inspections the engineer will observe closure
42 activities to determine whether they are being performed according to this plan.
43 Inspections will include, but not be limited to:
44
45
46
47
48

- Inspection of dangerous and radioactive mixed waste containment structures and systems to determine whether releases of wastes to the environment have occurred
- Verification that the dangerous and radioactive mixed waste inventory has been removed within 90 days of receipt of the last waste shipment
- Inspection of manifests and Operating Record to verify that these wastes were disposed of in compliance with WAC 173-303
- Inspection of decontamination operations to verify that they are being performed using the procedures described in this plan
- Inspection of the Operating Record to verify that samples of liquid decontamination wastes were collected and analyzed using the procedures described in this plan
- Inspection of the Operating Record to verify that decontamination wastes were properly designated in compliance with WAC 173-303-070 and properly disposed of.

Inspections by the engineer will be documented in a bound notebook. Notations will include the date and time of the inspection, the areas inspected, the activities inspected, applicable closure plan requirements inspected, status of observed activities with respect to plan requirements, corrective actions required, status of past corrective actions, and name and signature of inspector. This inspection notebook will be made available to Ecology upon request.

Upon completion of closure according to the plan, the DOE-RL will require the engineer to sign the following document or a document similar to it:

I, (name), a certified Professional Engineer, hereby certify, to the best of my knowledge and belief, that I have made visual inspection(s) of the 305-B Storage Facility at the 300 Area and that closure of the aforementioned facility has been performed in accordance with the attached approved closure plan.

(Signature, date, state Professional Engineer license number, business address, and phone number).

11.3 POST-CLOSURE PLAN [I-2]

This section and subsequent subsections are not applicable because the 305-B Storage Facility is not to be closed as a dangerous waste disposal facility.

1 **11.4 NOTICE IN DEED [I-3]**
2

3 This section is not applicable because the 305-B Storage Facility is not to be
4 closed as a dangerous waste disposal facility.
5

6
7 **11.5 CLOSURE COST ESTIMATE [I-4]**
8

9 This section is not applicable because the 305-B Storage Facility is owned by the
10 DOE, exempting DOE from providing cost and assurance mechanisms in accordance
11 with 40 CFR 264.140(c).
12

13
14 **11.6 FINANCIAL ASSURANCE MECHANISM FOR CLOSURE [I-5]**
15

16 This section is not applicable because the 305-B Storage Facility is owned by the
17 DOE, exempting DOE from providing cost and assurance mechanisms in accordance
18 with 40 CFR 264.140(c).
19

20
21 **11.7 POST-CLOSURE COST ESTIMATE [I-6]**
22

23 A post-closure cost estimate is not required for the 305-B Storage Facility
24 because it will not be closed as a dangerous waste disposal facility.
25

26
27 **11.8 FINANCIAL ASSURANCE MECHANISM FOR POST-CLOSURE CARE [I-7]**
28

29 Post-closure financial assurance is not required for the 305-B Storage Facility
30 because it will not be closed as a dangerous waste disposal facility.
31

32
33 **11.9 LIABILITY REQUIREMENTS [I-8]**
34

35 This section is not applicable because the 305-B Storage Facility is owned by the
36 DOE, exempting DOE from liability requirements in accordance with 40 CFR
37 264.140(c).
38

CONTENTS

12.0	REPORTING AND RECORDKEEPING	12-1
12.1	NOTIFICATION OF HAZARDOUS WASTE ACTIVITIES	12-1
12.2	GENERATOR REQUIREMENTS	12-1
12.2.1	Recordkeeping	12-1
12.2.2	Reporting	12-1
12.3	TRANSPORTER REQUIREMENTS	12-5
12.4	TREATMENT, STORAGE, AND/OR DISPOSAL REQUIREMENTS	12-6
12.4.1	Reports	12-6
12.4.1.1	Waste Manifest Reports	12-6
12.4.1.2	Annual Report	12-7
12.4.1.3	Biennial Report	12-7
12.4.1.4	Groundwater Monitoring Reports	12-7
12.4.1.5	Contingency Plan Incident Reports	12-7
12.4.1.6	Spills, Discharges, and Leak Reports	12-9
12.4.1.7	Closure Reports	12-10
12.4.1.8	Post-Closure Reports	12-10
12.4.2	Recordkeeping Requirements	12-10
12.4.2.1	Permit Application Plans	12-10
12.4.2.2	Operating Record	12-10
12.4.2.3	Miscellaneous Support Records	12-14
12.4.2.4	Report Records	12-14

TABLES

12-1.	Reports and Records	12-2
-------	-------------------------------	------

12.0 REPORTING AND RECORDKEEPING

This chapter summarizes the reporting and recordkeeping requirements from the other sections of the Part B permit application. The reports are submitted to Ecology and/or the EPA as required by applicable regulations, and required records are maintained at the 305-B Storage Facility. Many of the reports and records that would be required for a facility accepting waste from off-site sources are not directly applicable to the 305-B Storage Facility. A general reporting requirement applicable to all dangerous waste management facilities (e.g., notification) is described, as well as reporting and recordkeeping requirements for generators, transporters, and treatment, storage, and/or disposal facilities. Reports and records applicable to the 305-B Storage Facility are summarized in Table 12-1.

12.1 NOTIFICATION OF HAZARDOUS WASTE ACTIVITIES

Facilities generating or transporting dangerous waste and the owner and operators of treatment, storage, and/or disposal facilities must have current EPA/State Identification Numbers. The 305-B facility operates under EPA/State Identification Number WA7890008967, issued to the Hanford Site.

12.2 GENERATOR REQUIREMENTS

The 305-B Storage Facility generates only minor amounts of waste during the cleanup of container spills or leaks and this waste is handled together with other waste generated on the Hanford Site. Hanford Site waste generation records and required reports (e.g., annual reports) are compiled and issued as single records or reports for the entire Hanford Site; information on waste generated by the 305-B facility is compiled and provided together with other Hanford Site generator records and reports.

12.2.1 Recordkeeping

Generator records maintained by the Hanford Site include the following:

- Records of waste generated onsite
- Records of waste packaged to be shipped offsite
- A copy of each annual report
- Land disposal restriction records.

Waste generation records are retained as required by WAC 173-303-210 and 40 CFR 268.7.

12.2.2 Reporting

Generator reports required by WAC 173-303-220 submitted by the Hanford Site include the annual report, exception reports, and any required additional reports.

Table 12-1. Reports and Records.

Item	Storage	
	Retention Time	Location
Notification of dangerous waste activities	Life of facility	Hanford Site
GENERATOR REPORTS AND RECORDS:		
Annual report	Life of facility	Hanford Site
Exception report	Life of facility	Hanford Site
Additional reports and records as required (i.e., inspection logs)	Life of facility	Hanford Site
<u>Test and Waste Analysis Results:</u>		
Waste generated onsite	Life of facility	Hanford Site
Waste packaged for offsite shipment	Life of facility	Hanford Site
<u>Waste Manifest Reports and Records:</u>		
Manifests	Until closure	At facility
Manifest discrepancy	Until closure	At facility
Unmanifested waste	Not required	N/A ^a
<u>Land Disposal Restriction Records:</u>		
Extension to an effective date	At least 5 years from the date of shipment	At facility
Petition for a variance	At least 5 years from the date of shipment	At facility
Notice and certification of treatment standards	At least 5 years from the date of shipment	At facility
Demonstration and certification for a temporary extension to the effective date	At least 5 years from the date of shipment	At facility

Table 12-1. (Cont'd).

Item	Storage	
	Retention Time	Location
TRANSPORTER REPORTS AND RECORDS:		
None required	N/A	N/A
TREATMENT, STORAGE, AND/OR DISPOSAL REPORTS AND RECORDS:		
<u>Permit Application Plans:</u>		
Waste analysis plan	Life of facility	At facility
Contingency plan and amendments	Life of facility	At facility
Training plan	Life of facility	At facility
Closure plan	Life of facility	At facility
Post-closure plan	Not Required	N/A
Inspection plans	Life of facility	At facility
<u>Operating Reports and Records:</u>		
Waste description and quantity	Life of facility	At facility
Waste location	Until closure	At facility
Waste analysis data	Life of facility	At facility
Inspection records	Varies from 3 years from inspection date to life of facility	At facility
Certification of waste minimization efforts	Life of facility	At facility
<u>Land Disposal Restriction Records:</u>		
Extension to an effective date	At least 5 years from the date of shipment	At facility
Petition for a variance	At least 5 years from the date of shipment	At facility

Table 12-1. (Cont'd).

Item	Storage	
	Retention Time	Location
Notice and certification of treatment standards	At least 5 years from the date of shipment	At facility
Demonstration and certification for a temporary extension to the effective date	At least 5 years from the date of shipment	At facility
<u>Waste Manifest Reports and Records:</u>		
Manifests	Until closure	At facility
Manifest discrepancy	Until closure	At facility
Unmanifested waste	Not required	N/A
<u>Groundwater Monitoring Reports and Records:</u>		
None required	N/A	N/A
<u>Contingency Plan Incident Reports and Records:</u>		
Immediate notification-- Event Fact Sheet	Life of facility	At facility
Assessment report	Life of facility	At facility
Facility restart notification	Life of facility	At facility
<u>Spills, Discharges, and Leaks Reports and Records:</u>		
Immediate notification	Life of facility	At facility
<u>Closure Reports and Records:</u>		
Certification of closure	Life of facility	At facility
Survey plat	Not required	N/A
Closure cost estimates	Not required	N/A
<u>Post-Closure Reports and Records:</u>		
None required	N/A	N/A

Table 12-1. (Cont'd).

Item	Storage	
	Retention Time	Location
<u>Miscellaneous Support Reports and Records:</u>		
Annual report	3 years from due date	Hanford Site
Biennial report	Life of facility	Hanford Site
Training documentation	Life of facility	At facility
Liability coverage documentation	Not required	N/A

^aN/A=not applicable

The Hanford Site submits an annual report of waste generation activities to Ecology. The annual report is submitted on the "Generator Annual Dangerous Waste Report--Form 4." All dangerous waste generated at the 305-B facility is included in the annual report.

If a copy of the manifest is not returned with the signature of the owner/operator of a permitted facility designated to receive nonradioactive dangerous waste offsite within 35 days, the 305-B facility staff will contact the initial transporter or facility to determine the status of the waste shipment. If a copy of the manifest with the handwritten signature of the designated facility's owner/operator is not received by the 305-B facility within 45 days of the date the waste was offered to the initial transporter, an exception report will be submitted to Ecology. The report will include the following:

- A legible copy of the manifest for which delivery was not confirmed
- A cover letter explaining the efforts to locate the waste and the results of those efforts.

Copies of waste analysis reports or other documentation relating to the composition of dangerous waste shipped from the 305-B facility will be retained at the facility. Documents relating to land disposal restrictions are discussed in Section 12.4.2.2.7.

Any additional reports deemed necessary by Ecology or EPA are furnished by the Hanford Site upon request.

12.3 TRANSPORTER REQUIREMENTS

Transporter recordkeeping and reporting requirements are not strictly applicable to the 305-B facility since 305-B does not transport dangerous wastes offsite. Transporters having their own EPA/State Identification Numbers are used to

1 transport dangerous wastes from 305-B to a permitted off-site treatment, storage,
2 and/or disposal facility. Wastes are transported to 305-B by PNL waste
3 management organization staff. Wastes transported to 305-B on roads accessible
4 to the general public are considered to be "off-site" shipments and the PNL waste
5 management organization complies with transporter recordkeeping and reporting
6 requirements under WAC 173-303-260 and WAC 173-303-270 for these shipments.

12.4 TREATMENT, STORAGE, AND/OR DISPOSAL REQUIREMENTS

Storage facility reporting and recordkeeping requirements are discussed below.

12.4.1 Reports

This section discusses the reporting requirements of WAC 173-303 relating to aspects of dangerous waste. The reporting requirements include the following:

- Waste manifest reports
- Annual reports
- Groundwater monitoring reports
- Contingency plan incident reports
- Spills, discharges, and leaks reports
- Closure reports
- Post-closure reports.

Additional details of these reports are provided below. Copies of these reports are maintained by the 305-B facility or other Hanford Site organizations as appropriate.

12.4.1.1 Waste Manifest Reports. The waste manifest is the source of two possible reports, the manifest discrepancy report and the unmanifested waste report.

12.4.1.1.1 Manifest Discrepancy. Each dangerous or mixed waste transfer to the 305-B facility transported on roads accessible to the general public must have a Uniform Hazardous Waste Manifest for the transfer to be approved (see Section 2.8). The waste manifests received are checked to verify that they are properly filled out and the waste received is identical to the material described on the manifest. Every effort is made to resolve manifest discrepancies with the generator. If discrepancies are not resolved in 15 days, a report will be submitted to Ecology in accordance with WAC 173-303-370. This report describes the discrepancy and attempts to reconcile it. A copy of the manifest or shipping paper at issue is attached to the report.

12.4.1.1.2 Unmanifested Waste. The 305-B Storage Facility receives only dangerous and mixed wastes generated by Hanford Site programs. Only wastes which are transported to 305-B over roads accessible to the general public are subject to manifest requirements. Manifests for these wastes are prepared by staff from the PNL waste management organization. These staff are also responsible for transporting all wastes to 305-B. As discussed in Section 2.8, because the staff responsible for transporting wastes are also responsible for preparing manifests, receipt of unmanifested wastes is prevented.

12.4.1.2 Annual Report. The state of Washington, pursuant to WAC 173-303-390, requires an annual overall report for each facility that holds an active EPA/State Identification Number. The report is due to Ecology on March 1 of each year. A single report is prepared for the entire Hanford Site and covers each dangerous waste treatment, storage, and disposal facility at Hanford, including 305-B. The report contents for each facility include the following:

- EPA/State Identification Number
- Name and address of the facility
- Calendar year covered by the report
- Sources of the waste received by the facility
- Description and quantity of the waste received by the facility
- Treatment, storage, and/or disposal methods
- Certification statement signed by an authorized representative.

The report form and instructions in the "Treatment, Storage, or Disposal Facility Annual Dangerous Waste Report--Form 5" are used for this report. The above information applicable to the 305-B Storage facility is compiled by the PNL waste management organization and submitted to WHC. WHC is the organization responsible for preparing the Hanford Site annual report.

12.4.1.3 Biennial Report. The EPA requires, pursuant to 40 CFR 264.75, that an overall report describing each dangerous waste facility activity be submitted on March 1 of each even-numbered year. The biennial report is not required by Ecology. As with the annual report described in Section 12.4.1.2, a single report is prepared for the entire Hanford Site covering all dangerous waste treatment, storage, and disposal facilities at Hanford. The report contents for each facility include the following:

- EPA/State Identification Number
- Name and address of the facility
- Calendar year covered by the report
- Sources of the waste stored at 305-B
- Description and quantity of the waste received at 305-B
- Treatment, storage, and/or disposal methods
- Waste minimization efforts
- Certification statement signed by an authorized representative.

This information covers activities for the previous calendar year, which is submitted on EPA Form 8700-13B. The above information applicable to the 305-B Storage Facility is compiled by the PNL waste management organization and submitted to WHC. WHC is the organization responsible for preparing the Hanford Site biennial report.

12.4.1.4 Groundwater Monitoring Reports. The 305-B facility is not operated as a dangerous waste surface impoundment, waste pile, land treatment unit, or landfill as defined in WAC 173-303-645-(1)(a). Therefore, no groundwater monitoring or reporting is required for this facility.

12.4.1.5 Contingency Plan Incident Reports. The BED and 305-B facility line management are responsible for making notifications (as detailed in Sections 7.4.1.3 and 7.8) of all emergency situations requiring contingency plan implementation as required by WAC 173-303-360.

1 All situations requiring contingency plan implementation are documented on an
2 Event Fact Sheet which must be completed within one working day of contingency
3 plan implementation. The Event Fact Sheet is used to provide PNL management with
4 facts about an unplanned event and to disseminate information to those
5 responsible for preventing recurrence of similar events. The DOE-RL is notified
6 by PNL line management or the assigned overview organization depending on the
7 consequences of the event. A copy of the Event Fact Sheet is retained at the
8 facility as part of the Operating Record.

9
10 If the facility stops operations in response to a fire, explosion, or release
11 that may present a hazard to human health or the environment, the BED notifies
12 DOE-RL, via line management, when the facility and emergency equipment cleanup is
13 complete.

14
15 The DOE-RL is responsible for three types of notifications: an immediate
16 notification; the incident assessment report; and the facility restart
17 notification. Details of these notifications are provided below.

18
19 **12.4.1.5.1 Immediate Notification.** The DOE-RL will immediately notify Ecology
20 and the individual designated as the on-scene coordinator for the southeastern
21 Washington area of the National Response Center, telephone number (800) 424-8802,
22 if the facility has had a fire, explosion, or release that could threaten human
23 health or the environment outside the facility.

24
25 The DOE-RL report will contain the following information:

- 26 ■ Name and telephone number of reporter
- 27 ■ Name and address of the facility
- 28 ■ Time and type of incident
- 29 ■ Name and quantity of material(s) involved to the extent known
- 30 ■ Extent of injuries if any
- 31 ■ Possible hazards to human health or the environment outside the
- 32 facility.

33
34
35
36
37
38
39
40 **12.4.1.5.2 Incident Assessment Report.** The DOE-RL provides a written report to
41 Ecology within 15 days of any incident that requires implementation of the
42 contingency plan. This report includes the following information:

- 43 ■ Name, address, and telephone number of the owner or operator
 - 44 ■ Name, address and telephone number of the facility
 - 45 ■ Date, time, and type of incident
 - 46 ■ Name and quantity of material(s) involved
 - 47 ■ Extent of injuries if any
- 48
49
50
51
52
53

- Assessment of actual or potential hazards to human health or the environment where this is applicable
- Estimated quantity and disposition of recovered material that resulted from the incident
- Cause of the incident
- Description of corrective action taken to prevent recurrence of the incident.

12.4.1.5.3 Facility Restart Notification. If the 305-B facility stops operations in response to a fire, an explosion, or release that may present a hazard to human health or the environment, the DOE-RL will notify Ecology and the appropriate local authorities before normal operations are resumed in the affected area(s) of the facility. The notification will indicate that cleanup procedures are completed and that emergency equipment is cleaned and fit for its intended use.

12.4.1.6 Spills, Discharges, and Leak Reports. This section discusses the reports prepared as a result of unpermitted spills and discharges into the environment.

12.4.1.6.1 Spills and Discharges Reports. In the event of any unplanned release of dangerous materials, the building emergency director will document the incident on an Event Fact Sheet. A copy of the Event Fact Sheet will be retained at the facility. PNL line management will immediately notify the DOE-RL. The following information will be transmitted to the DOE-RL:

- Name and telephone number of reporter
- Name and address of the facility
- Time and type of incident
- Name and quantities of material(s) involved to the extent known
- Extent of injuries if any
- Possible hazards to human health or the environment outside the facility.

The PNL waste management organization immediately notifies the DOE-RL of all releases to the environment/atmosphere equal to or greater than the reportable quantities defined in WAC 173-303-082 and 40 CFR 302 for dangerous waste or extremely hazardous waste.

The DOE-RL will immediately notify Ecology of all spills exceeding 220 pounds for dangerous waste and 2.2 pounds of extremely hazardous waste. In addition, if a spill equals or exceeds the reportable quantities established by 40 CFR 302.4 and/or 40 CFR 355, DOE-RL will notify the National Response Center [(800) 424-8802] within 24 hours of the occurrence in accordance with 40 CFR 302.6. The

1 notification will provide the information contained in the Event Fact Sheet
2 described above.

3
4 **12.4.1.7 Closure Reports.** Reports regarding the closure of the 305-B facility
5 will be made in accordance with the requirements of WAC 173-303-610(6) and (9).

6
7 **12.4.1.7.1 Certification of Closure.** Within 60 days of completion of closure of
8 the 305-B facility, a certification signed by the DOE-RL and an independent
9 registered Professional Engineer will be submitted to Ecology. The certification
10 will be sent by registered mail. The certification will state that the facility
11 was closed in accordance with the approved closure plan. Documentation
12 supporting the independent registered engineer's certification will be supplied
13 upon request of Ecology.

14
15 **12.4.1.7.2 Survey Plat.** The 305-B Storage Facility is not a disposal facility;
16 therefore, this requirement is not applicable.

17
18 **12.4.1.8 Post-Closure Reports.** Post-closure reports required by WAC 173-303-
19 610(9), (10), and (11) are not required because the 305-B facility is not a
20 disposal facility.

21
22 **12.4.2 Recordkeeping Requirements**

23
24 The records kept by the 305-B facility include plans described in other portions
25 of this permit application, operating records, miscellaneous support records, and
26 records of reports made to Ecology and EPA. These records are described in the
27 following sections.

28
29 **12.4.2.1 Permit Application Plans.** The plans described in other portions of
30 this permit application and kept at the facility include the following:

- 31
32
 - Waste analysis plan
 - 33 ■ Contingency plan and amendments
 - 34 ■ Training plan
 - 35 ■ Closure plan
 - 36 ■ Inspection plans.

37
38 Copies of the plans described above are included in this permit application.
39 These plans are maintained at the 305-B facility during the life of the facility.
40 Modifications or amendments required as a result of changing regulatory or
41 operational requirements or data gathered with the monitoring and sampling
42 programs will be submitted to Ecology and added to the plans maintained at the
43 facility as required.

44
45 **12.4.2.2 Operating Record.** The Operating Record maintained at the 305-B
46 facility includes the following:

- 47
48
 - A description and the quantity of each dangerous waste received and the
49 method(s) and date(s) of storage at the 305-B facility in accordance
50 with WAC 173-303-380
 - 51
52 ■ The location of each dangerous waste stored within the facility and the
53 quantity at each location, including cross-reference to manifest numbers

- Waste analysis results
- Contingency plan implementation reports
- Inspection records
- Copies of notices from off-site facilities informing 305-B that the off-site facilities have all required permits.

12.4.2.2.1 Waste Description and Quantity. Each dangerous waste received at the 305-B facility is described by its common name and dangerous waste number(s). When a dangerous waste contains multiple dangerous waste constituents, the waste description includes all applicable dangerous waste numbers. For wastes that are not listed, the waste description includes the name of the process that generated the waste. The waste description includes the following information:

- Physical form (i.e., liquid, solid, sludge, or gas)
- Weight, volume, and density, using one of the units of measure in WAC 173-303-380(2)(c)
- Date and management method for each waste, including handling codes specified in WAC 173-303-380(2)(d).

12.4.2.2.2 Waste Location. The location of each dangerous waste container stored within the 305-B facility is documented and maintained. This record provides a cross-reference to associated manifest numbers.

12.4.2.2.3 Waste Analysis. As described in Section 3.2, most of the wastes received at 305-B do not require analysis. Only those wastes which are unknown or for which the generator does not have documentation of contents require analysis. Waste sampling and analysis is performed by the generator. Waste analysis results are submitted to the PNL waste management organization with the request for disposal form. These results are used by the PNL waste management organization to designate the waste in accordance with WAC 173-303-070, to determine waste compatibility for proper storage, and to determine waste packaging and labeling requirements. Results of waste analyses submitted with disposal request forms are kept at 305-B and are cross-referenced to manifest numbers.

Analysis of wastes generated at 305-B would only be required in the case of spill or leak response when it is necessary to determine whether cleanup residuals are dangerous wastes. 305-B staff are responsible for sampling such wastes and having the required analyses performed by on-site or off-site laboratories. If such wastes are determined to be dangerous wastes, copies of the waste analysis results will be kept at 305-B and cross-referenced to manifest numbers.

12.4.2.2.4 Contingency Plan Implementation Report. Records documenting the details of any incidents requiring the implementation of the contingency plan, as described in Chapter 7.0 and Section 12.4.1.5, are maintained as part of the 305-B facility Operating Record as required by WAC 173-303-380.

12.4.2.2.5 Inspection Records. Records of the 305-B facility general inspections are maintained at the facility for at least three years from the inspection date. The records include the following:

- The date and time of inspection
- The inspector's printed name and handwritten signature
- Notations of observations
- The date and nature of any repairs or other remedial actions.

12.4.2.2.6 Waste Minimization Certification. Annually, a certification by DOE-RL that the 305-B facility has a program in place to reduce the volume and toxicity of hazardous waste is inserted into the 305-B facility Operating Record as required by 40 CFR 264.73(b)(9).

12.4.2.2.7 Land Disposal Restrictions Records. Records related to storage of waste subject to land disposal prohibitions are maintained as required by 40 CFR 264.73(b)(10) and (16). Records potentially include:

- Records of waste placed in land disposal units under an extension to the effective date of any land disposal restriction granted pursuant to 40 CFR 268.5
- Records of waste placed in land disposal units under a petition granted pursuant to 40 CFR 268.6
- Records of the applicable notice and certification required by 40 CFR 268.7(a)
- Records of the demonstration and certification required by 40 CFR 268.8, if applicable, for waste subject to land disposal prohibitions or restriction.

Additional discussion of land disposal records is provided in the following sections.

12.4.2.2.7.1 Date Extension. The 305-B Storage Facility will not apply for an extension to the effective date of a land disposal restriction. The Hanford Site generator or the permitted off-site disposal facility may apply for an extension if required. If such an extension is approved by EPA, the generator or permitted off-site disposal facility, as appropriate, will provide a copy of the approval indicating the waste subject to the extension. Copies of these records, as well as the quantities and the date of placement (information the permitted off-site disposal facility is requested to provide to 305-B following disposal) for each shipment of waste subject to the date of the extension will be maintained in the 305-B files.

12.4.2.2.7.2 Petition. The 305-B Storage Facility will not petition to allow land disposal of a waste subject to a land disposal restriction under 40 CFR 268,

1 Subpart C. The permitted off-site disposal facility may petition to the
2 regulatory authority for a variance to allow disposal of a restricted or
3 prohibited waste if required. If such a petition is approved by EPA for waste
4 shipped by 305-B, the disposal facility will be requested to provide information
5 related to the petition so that 305-B may ensure that the waste shipped complies
6 with the petition. Copies of the records of the petition, as well as the waste
7 quantities and date of placement (information on the permitted off-site disposal
8 facility is requested to provide to 305-B following disposal) for each waste
9 shipment covered by the petition will be maintained in the 305-B files.

10
11 12.4.2.2.7.3 Notice and Certification. Each waste generator is required to
12 provide the PNL waste management organization with adequate waste
13 characterization data for the waste management organization to determine whether
14 the waste is subject to land disposal restrictions. The waste management
15 organization determines whether the waste is subject to land disposal
16 restrictions prior to transporting the waste to 305-B. If wastes are determined
17 to be subject to land disposal restrictions, the required notices and
18 certifications are included with waste shipments from 305-B to off-site
19 treatment, storage, and/or disposal facilities. Such notifications are made as
20 described below. Copies of notifications, certifications, demonstrations, and
21 supporting documentation for each shipment of waste subject to a land disposal
22 restriction or prohibition are maintained at 305-B.

23
24 Waste Does Not Meet Applicable Treatment Standards or Exceeds Applicable
25 Prohibition Levels. If the waste does not meet the applicable treatment
26 standards or exceeds an applicable prohibition level set forth in 40 CFR 268.32
27 or Section 3004(d) of RCRA, a notice is provided with each shipment of waste
28 containing the following information:

- 29
30
31
32
33
34
35
36
37
38
39
- The EPA Hazardous Waste Number
 - Corresponding treatment standards and all applicable prohibitions set forth in 40 CFR 268.32 or Section 3004(d) of RCRA
 - The waste manifest number associated with the shipment of waste
 - Waste analysis data where available or a statement of the basis of the determination with supporting data.

40
41 Waste Meets the Applicable Treatment Standards. If the waste meets the
42 applicable treatment standards and can be land disposed without further
43 treatment, a notice and certification is provided by the 305-B facility with each
44 shipment of waste. The notice contains the following information:

- 45
46
47
48
49
50
51
52
- The EPA Hazardous Waste Number
 - Corresponding treatment standards and all applicable prohibitions set forth in 40 CFR 268.32 or Section 3004(d) of RCRA
 - The manifest number associated with the waste shipment
 - Waste analysis data where available or a statement of the basis of determination with supporting data.

1 In addition, the shipment will be accompanied by the certification required under
2 40 CFR 268.7(a)(2)(ii) that the waste complies with treatment standards and
3 prohibitions.

4
5 **12.4.2.2.7.4 Demonstration and Certification.** Until May 9, 1990, wastes which
6 are "first third" wastes listed under 40 CFR 268.10 or "second third" wastes
7 listed under 40 CFR 268.11, for which treatment standards have not been
8 promulgated under 40 CFR 268 Subpart D, may be land disposed under certain
9 conditions which comply with 40 CFR 268.8, 40 CFR 268.33(f), and 40 CFR
10 268.33(h). If such wastes are shipped from 305-B for land disposal, the initial
11 shipment will be accompanied by the demonstration and certification required
12 under 40 CFR 268.8(a). Each additional shipment will be accompanied only by the
13 certification provided that the conditions covered by the original certification
14 have not changed.

15
16 **12.4.2.3 Miscellaneous Support Records.** Miscellaneous support records include
17 the following:

- 18
- 19 ■ Training records
- 20 ■ Liability coverage documentation
- 21 ■ Closure and post-closure cost estimates
- 22 ■ Report records.
- 23

24 **12.4.2.3.1 Training Documentation.** The name of each employee and the 305-B
25 facility waste management position held is maintained by the facility. Training
26 records document that employees have received the training or job experience
27 required for that position. The records are maintained by the facility.
28 Training records on current employees are kept until closure of the facility.
29 Training records on former employees are kept for three years from the date the
30 employee last worked at the facility. Auditable copies of these records are
31 maintained by the PNL training organization.

32
33 **12.4.2.3.2 Liability Coverage Documentation.** Financial assurance and liability
34 coverage mechanisms are not required for federal facilities. Therefore, this
35 requirement is not applicable to the 305-B facility.

36
37 **12.4.2.3.3 Closure and Post-closure Cost Estimates.** Financial assurance
38 mechanisms for closure and post-closure costs are not required for federal
39 facilities. Therefore, this requirement is not applicable to the 305-B facility.

40
41 **12.4.2.4 Report Records.** The reports described in Sections 12.1, 12.2.2, and
42 12.4.1 are contained in records maintained either by the 305-B facility or by
43 other Hanford Site organizations as noted in Table 12-1. Copies of the reports
44 will be made available upon the request of Ecology or EPA.
45

CONTENTS

13.0	OTHER RELEVANT LAWS [J]	13-1
13.1	THE COASTAL ZONE MANAGEMENT ACT OF 1972	13-1
13.2	THE ENDANGERED SPECIES ACT OF 1973	13-1
13.3	THE FISH AND WILDLIFE COORDINATION ACT OF 1934	13-1
13.4	THE NATIONAL HISTORIC PRESERVATION ACT OF 1966	13-1
13.5	THE WILD AND SCENIC RIVERS ACT OF 1968	13-2
13.6	OTHER REQUIREMENTS	13-2

90117-10317

This page intentionally left blank.

2001-10-15

13.0 OTHER RELEVANT LAWS [J]

The 305-B Storage Facility was constructed and will be operated in compliance with applicable laws and regulations. Relevant environmental laws and regulations have been reviewed, necessary notifications have been made, and approvals or permits obtained. No additional approvals or permits for 305-B that would require action by either Ecology or EPA have been identified.

This chapter provides a summary of the regulatory review performed to assist Ecology in determining that 305-B has met its obligation with respect to other federal or state laws. The major environmental laws evaluated include the following:

- The Coastal Zone Management Act of 1972
- The Endangered Species Act of 1973
- The Fish and Wildlife Coordination Act of 1934
- The National Historic Preservation Act of 1966 as amended
- The Wild and Scenic Rivers Act of 1968 as amended.

In addition, a summary of other requirements that may apply is provided. Full references for each of these acts are included in Chapter 15.0

13.1 THE COASTAL ZONE MANAGEMENT ACT OF 1972

The 305-B Storage Facility is not located in a coastal zone or shoreline area as defined by this statute. Therefore, no permits or reviews pursuant to this statute are applicable.

13.2 THE ENDANGERED SPECIES ACT OF 1973

The 305-B Storage Facility is located in the 300 Area of the Hanford Site. (See Chapter 2.0 for site location information.) The site for 305-B cannot be considered an undisturbed area or a major habitat for native plant and animal species. Also, this area constitutes a very small fraction of the Hanford Site and, hence, would not play a significant role in the ecology of the Site. No listed or proposed endangered or threatened species or their habitats are expected to be affected by 305-B activities.

13.3 THE FISH AND WILDLIFE COORDINATION ACT OF 1934

The 305-B Storage Facility will not involve the impoundment, diversion, or other control or modification of any body of water. Therefore, no permits or reviews pursuant to this statute are applicable.

13.4 THE NATIONAL HISTORIC PRESERVATION ACT OF 1966

The 305-B Storage Facility affects no areas that are eligible for nomination to the National Register of Historic Places. All activities at Hanford involving

1 excavation, require review for the presence of archaeological resources in
2 accordance with regulations issued pursuant to, or other regulations of, the
3 American Antiquities Preservation Act of 1906; the American Indian Religious
4 Freedom Act of 1978; the Historic Sites, Buildings, and Antiquities Act of 1935;
5 the Archaeological and Historic Preservation Act of 1960; and the Archaeological
6 Resources Protection Act of 1979. No known cultural resource impacts have
7 occurred from 305-B activities.
8
9

10 13.5 THE WILD AND SCENIC RIVERS ACT OF 1968

11
12 The 305-B Storage Facility does not affect any rivers presently designated under
13 the Wild and Scenic Rivers Act of 1968.
14
15

16 13.6 OTHER REQUIREMENTS

17
18 Wastes containing PCBs which are subject to regulation under the Toxic Substances
19 Control Act of 1976 (TSCA) are stored in the 305-B Storage Facility. These
20 wastes are stored for periods less than one year before shipment to a disposal
21 facility permitted under TSCA. Storage of PCB wastes in 305-B for periods less
22 than one year is in compliance with applicable TSCA regulations under 40 CFR
23 761.65.
24
25

CONTENTS

14.0 CERTIFICATION [K]	14-1
----------------------------------	------


9 0 1 1 7 9 1 0 3 2 1

This page intentionally left blank.

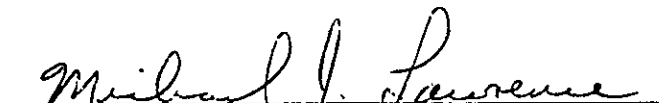
14.0 CERTIFICATION [K]

The following certification, required by Washington Administrative Code 173-303-810(13), for all applications and reports submitted to Ecology is hereby included:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.


Co-Operator
William R. Wiley, Director
Pacific Northwest Laboratory

8 Jan. 1990
Date


Owner/Operator
Michael J. Lawrence, Manager
U.S. Department of Energy
Richland Operations Office

1/29/90
Date

1
2
3
4

This page intentionally left blank.

2
2
3
0
1
0
1
0
0
0

CONTENTS

15.0 REFERENCES 15-1

90117010325

This page intentionally left blank.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884
885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941
942
943
944
945
946
947
948
949
950
951
952
953
954
955
956
957
958
959
960
961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978
979
980
981
982
983
984
985
986
987
988
989
990
991
992
993
994
995
996
997
998
999
1000
1001
1002
1003
1004
1005
1006
1007
1008
1009
1010
1011
1012
1013
1014
1015
1016
1017
1018
1019
1020
1021
1022
1023
1024
1025
1026
1027
1028
1029
1030
1031
1032
1033
1034
1035
1036
1037
1038
1039
1040
1041
1042
1043
1044
1045
1046
1047
1048
1049
1050
1051
1052
1053
1054
1055
1056
1057
1058
1059
1060
1061
1062
1063
1064
1065
1066
1067
1068
1069
1070
1071
1072
1073
1074
1075
1076
1077
1078
1079
1080
1081
1082
1083
1084
1085
1086
1087
1088
1089
1090
1091
1092
1093
1094
1095
1096
1097
1098
1099
1100
1101
1102
1103
1104
1105
1106
1107
1108
1109
1110
1111
1112
1113
1114
1115
1116
1117
1118
1119
1120
1121
1122
1123
1124
1125
1126
1127
1128
1129
1130
1131
1132
1133
1134
1135
1136
1137
1138
1139
1140
1141
1142
1143
1144
1145
1146
1147
1148
1149
1150
1151
1152
1153
1154
1155
1156
1157
1158
1159
1160
1161
1162
1163
1164
1165
1166
1167
1168
1169
1170
1171
1172
1173
1174
1175
1176
1177
1178
1179
1180
1181
1182
1183
1184
1185
1186
1187
1188
1189
1190
1191
1192
1193
1194
1195
1196
1197
1198
1199
1200
1201
1202
1203
1204
1205
1206
1207
1208
1209
1210
1211
1212
1213
1214
1215
1216
1217
1218
1219
1220
1221
1222
1223
1224
1225
1226
1227
1228
1229
1230
1231
1232
1233
1234
1235
1236
1237
1238
1239
1240
1241
1242
1243
1244
1245
1246
1247
1248
1249
1250
1251
1252
1253
1254
1255
1256
1257
1258
1259
1260
1261
1262
1263
1264
1265
1266
1267
1268
1269
1270
1271
1272
1273
1274
1275
1276
1277
1278
1279
1280
1281
1282
1283
1284
1285
1286
1287
1288
1289
1290
1291
1292
1293
1294
1295
1296
1297
1298
1299
1300
1301
1302
1303
1304
1305
1306
1307
1308
1309
1310
1311
1312
1313
1314
1315
1316
1317
1318
1319
1320
1321
1322
1323
1324
1325
1326
1327
1328
1329
1330
1331
1332
1333
1334
1335
1336
1337
1338
1339
1340
1341
1342
1343
1344
1345
1346
1347
1348
1349
1350
1351
1352
1353
1354
1355
1356
1357
1358
1359
1360
1361
1362
1363
1364
1365
1366
1367
1368
1369
1370
1371
1372
1373
1374
1375
1376
1377
1378
1379
1380
1381
1382
1383
1384
1385
1386
1387
1388
1389
1390
1391
1392
1393
1394
1395
1396
1397
1398
1399
1400
1401
1402
1403
1404
1405
1406
1407
1408
1409
1410
1411
1412
1413
1414
1415
1416
1417
1418
1419
1420
1421
1422
1423
1424
1425
1426
1427
1428
1429
1430
1431
1432
1433
1434
1435
1436
1437
1438
1439
1440
1441
1442
1443
1444
1445
1446
1447
1448
1449
1450
1451
1452
1453
1454
1455
1456
1457
1458
1459
1460
1461
1462
1463
1464
1465
1466
1467
1468
1469
1470
1471
1472
1473
1474
1475
1476
1477
1478
1479
1480
1481
1482
1483
1484
1485
1486
1487
1488
1489
1490
1491
1492
1493
1494
1495
1496
1497
1498
1499
1500
1501
1502
1503
1504
1505
1506
1507
1508
1509
1510
1511
1512
1513
1514
1515
1516
1517
1518
1519
1520
1521
1522
1523
1524
1525
1526
1527
1528
1529
1530
1531
1532
1533
1534
1535
1536
1537
1538
1539
1540
1541
1542
1543
1544
1545
1546
1547
1548
1549
1550
1551
1552
1553
1554
1555
1556
1557
1558
1559
1560
1561
1562
1563
1564
1565
1566
1567
1568
1569
1570
1571
1572
1573
1574
1575
1576
1577
1578
1579
1580
1581
1582
1583
1584
1585
1586
1587
1588
1589
1590
1591
1592
1593
1594
1595
1596
1597
1598
1599
1600
1601
1602
1603
1604
1605
1606
1607
1608
1609
1610
1611
1612
1613
1614
1615
1616
1617
1618
1619
1620
1621
1622
1623
1624
1625
1626
1627
1628
1629
1630
1631
1632
1633
1634
1635
1636
1637
1638
1639
1640
1641
1642
1643
1644
1645
1646
1647
1648
1649
1650
1651
1652
1653
1654
1655
1656
1657
1658
1659
1660
1661
1662
1663
1664
1665
1666
1667
1668
1669
1670
1671
1672
1673
1674
1675
1676
1677
1678
1679
1680
1681
1682
1683
1684
1685
1686
1687
1688
1689
1690
1691
1692
1693
1694
1695
1696
1697
1698
1699
1700
1701
1702
1703
1704
1705
1706
1707
1708
1709
1710
1711
1712
1713
1714
1715
1716
1717
1718
1719
1720
1721
1722
1723
1724
1725
1726
1727
1728
1729
1730
1731
1732
1733
1734
1735
1736
1737
1738
1739
1740
1741
1742
1743
1744
1745
1746
1747
1748
1749
1750
1751
1752
1753
1754
1755
1756
1757
1758
1759
1760
1761
1762
1763
1764
1765
1766
1767
1768
1769
1770
1771
1772
1773
1774
1775
1776
1777
1778
1779
1780
1781
1782
1783
1784
1785
1786
1787
1788
1789
1790
1791
1792
1793
1794
1795
1796
1797
1798
1799
1800
1801
1802
1803
1804
1805
1806
1807
1808
1809
1810
1811
1812
1813
1814
1815
1816
1817
1818
1819
1820
1821
1822
1823
1824
1825
1826
1827
1828
1829
1830
1831
1832
1833
1834
1835
1836
1837
1838
1839
1840
1841
1842
1843
1844
1845
1846
1847
1848
1849
1850
1851
1852
1853
1854
1855
1856
1857
1858
1859
1860
1861
1862
1863
1864
1865
1866
1867
1868
1869
1870
1871
1872
1873
1874
1875
1876
1877
1878
1879
1880
1881
1882
1883
1884
1885
1886
1887
1888
1889
1890
1891
1892
1893
1894
1895
1896
1897
1898
1899
1900
1901
1902
1903
1904
1905
1906
1907
1908
1909
1910
1911
1912
1913
1914
1915
1916
1917
1918
1919
1920
1921
1922
1923
1924
1925
1926
1927
1928
1929
1930
1931
1932
1933
1934
1935
1936
1937
1938
1939
1940
1941
1942
1943
1944
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
2036
2037
2038
2039
2040
2041
2042
2043
2044
2045
2046
2047
2048
2049
2050
2051
2052
2053
2054
2055
2056
2057
2058
2059
2060
2061
2062
2063
2064
2065
2066
2067
2068
2069
2070
2071
2072
2073
2074
2075
2076
2077
2078
2079
2080
2081
2082
2083
2084
2085
2086
2087
2088
2089
2090
2091
2092
2093
2094
2095
2096
2097
2098
2099
2100
2101
2102
2103
2104
2105
2106
2107
2108
2109
2110
2111
2112
2113
2114
2115
2116
2117
2118
2119
2120
2121
2122
2123
2124
2125
2126
2127
2128
2129
2130
2131
2132
2133
2134
2135
2136
2137
2138
2139
2140
2141
2142
2143
2144
2145
2146
2147
2148
2149
2150
2151
2152
2153
2154
2155
2156
2157
2158
2159
2160
2161
2162
2163
2164
2165
2166
2167
2168
2169
2170
2171
2172
2173
2174
2175
2176
2177
2178
2179
2180
2181
2182
2183
2184
2185
2186
2187
2188
2189
2190
2191
2192
2193
2194
2195
2196
2197
2198
2199
2200
2201
2202
2203
2204
2205
2206
2207
2208
2209
2210
2211
2212
2213
2214
2215
2216
2217
2218
2219
2220
2221
2222
2223
2224
2225
2226
2227
2228
222

15.0 REFERENCES

COE, 1969, Lower Columbia River Standard Project Flood and Probable Maximum Flood, U.S. Army Corps of Engineers, North Pacific Division, Portland, Oregon.

The Coastal Zone Management Act of 1972, as amended, 16 U.S.C. 1451 et seq.

DOT, 1988, Shippers-General Requirements for Shipments and Packagings, Title 49, Code of Federal Regulations, Part 173, U.S. Department of Transportation, Washington, DC.

Ecology, 1984, Chemical Testing Methods for Complying with the State of Washington Dangerous Waste Regulation- WDOE 83-13, Washington State Department of Ecology, Olympia, Washington.

Ecology, 1987, State of Washington Part B Permit Application Requirements, Washington State Department of Ecology, Olympia, Washington.

Ecology, 1989, Dangerous Waste Regulations, WAC 173-303, Washington State Department of Ecology, Olympia, Washington.

The Endangered Species Act of 1973, as amended, 16 U.S.C. 1531 et seq.

EPA, 1980, A Method for Determining the Compatibility of Hazardous Wastes, EPA-600/2-80-076, U.S. Environmental Protection Agency, Cincinnati, Ohio.

EPA, 1986, Test Methods for Evaluating Solid Waste, SW-846, 3rd Edition, U.S. Environmental Protection Agency, Washington, DC.

EPA, 1988, Standards Applicable to Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities, Title 40, Code of Federal Regulations, Part 264, U.S. Environmental Protection Agency, Washington, DC.

EPA, 1989, EPA Regulations on Land Disposal Restrictions, Title 40, Code of Federal Regulations, Part 268, U.S. Environmental Protection Agency, Washington, DC.

FEMA, 1982, FIRM Flood Insurance Rate Map, Benton County, Washington (Unincorporated Areas), Community-Panel Number 530237 0470 B, Federal Emergency Management Agency, Washington, DC.

The Fish and Wildlife Coordination Act of 1934, as amended, 16 U.S.C. 661

International Conference of Building Officials, 1988, Uniform Fire Code, International Conference of Building Officials and Western Fire Chiefs Association, Whittier, California.

The National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470 et seq.

1 Resource Conservation and Recovery Act of 1976, as amended, 42 U.S.C. 6901
2 et seq.

3
4 Toxic Substances Control Act, 1976, 15 U.S.C. 2601 et seq.

5
6 Washington Hazardous Waste Management Act, Title 70, Chapter 105 as amended,
7 Revised Code of Washington, Olympia, Washington.

8
9 The Wild and Scenic Rivers Act of 1968, as amended, 16 U.S.C. 1271 et seq.
10

20100103

APPENDICES

2A.	Hanford Site and 300 Area Topographic Maps	APP 2A-i
4A.	305-B Design Drawings	APP 4A-i
6A.	Hanford Fire Department Emergency Equipment	APP 6A-i
7A.	Emergency Response Information and Procedures	APP 7A-i
8A.	305-B Job Descriptions and Training Requirements	APP 8A-i

90117619325

This page intentionally left blank.

0
2
3
0
1
9
1
0
6

APPENDIX 2A

HANFORD SITE AND 300 AREA TOPOGRAPHIC MAPS

90117510331

APPENDIX 2A

HANFORD SITE AND 300 AREA TOPOGRAPHIC MAPS

- Plate 2-1. Hanford Site Map, Drawing H-6-958, Rev. 0, Sheet 1 of 1
- Plate 2-2. 300 Area Topography 5-14-82, Drawing M-3601, Rev. 1, Sheet 1 of 12
- Plate 2-3. 300 Area Topography 5-14-82, Drawing M-3601, Rev. 1, Sheet 2 of 12
- Plate 2-4. 300 Area Topography 5-14-82, Drawing M-3601, Rev. 1, Sheet 3 of 12
- Plate 2-5. 300 Area Topography 5-14-82, Drawing M-3601, Rev. 1, Sheet 5 of 12
- Plate 2-6. 300 Area Topography 5-14-82, Drawing M-3601, Rev. 1, Sheet 6 of 12
- Plate 2-7. 300 Area Topography 5-14-82, Drawing M-3601, Rev. 1, Sheet 7 of 12

USE THIS SET OF AERIAL MAPS IN CONJUNCTION WITH
THE M-3600 SERIES MAPS,
THIS SHEET SHOWS TOPOGRAPHY THAT APPLIES TO
M-3600 SHTS 8, 9 & 26.

BASED ON THESE AERIAL MAPS, THREE TABLES
EXIST THAT SHOW COORDINATES OF:

- (a) BUILDING CORNERS (AERIAL VIEW);
- (b) FENCE CORNERS; AND
- (c) POLES.

THESE TABLES COMPRISE CVI 30-400.

FOR KEY MAP, SEE H-3-32355 SH.1.

E13000

APPD. FOR CONFORMANCE WITH DESIGN CRITERIA	DATE
BY	
FOR	
A. APPD	
APPD	
APPD <i>Donal L. Wells</i>	<i>11/11</i>
ENGR <i>R. O. Daniel</i>	<i>9/24/82</i>
DFTG APPD	
CHECKED	
DRAWN <i>J. C. Williamson</i>	<i>8-24-82</i>
SCALE <i>1" = 40'</i>	
CLASSIFICATION	
NONE	

U.S. Department of Energy

Hanford Engineering Development Laboratory
Westinghouse Hanford Company

300 AREA TOPOGRAPHY

5-14-82

BLDG. NO.	300G	INDEX NO.	0103
DWG NO.	M-3601	SHEET NO.	12

E13800

390

389.7

300 AREA TOPOGRAPHY

5-14-82

BLDG. NO.

300G

DWG NO.

M-3601

NO.

0103

SHEET NO.

2 of 2

U.S. Department of Energy

Richland Operations Office

Hanford Engineering Development Laboratory

Westinghouse Hanford Company

APPD. FOR CONFORMANCE
WITH DESIGN CRITERIA

BY

FOR

O.A. APPD

APPD

APPD

APPD

ENGR

DFTG APPD

DATE

DRAWN

J.C. WILLIAMSON

SCALE 1" = 40'

CLASSIFICATION

UNCLASSIFIED

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

M

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

M

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

M

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

M

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

M

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

M

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

M

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

M

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE



385

EL4800

APPD. FOR CONFORMANCE WITH DESIGN CRITERIA		DATE		U.S. Department of Energy Richland Operations Office Hanford Engineering Development Laboratory Westinghouse Hanford Company	
BY	FOR				
Q.A. APPD				300 AREA TOPOGRAPHY 5-14-82	
APPD					
APPD					
APPD <i>Daniel L. Well</i>					
ENGR				391.05 A23 390.95	
DETG APPD					
CHECKED				391.05 A23 390.95	
DRAWN <i>J.C. Williamson</i>					
SCALE 1" = 40'		BLDG. NO. 3006		INDEX NO. 0103	
CLASSIFICATION NONE		DWG NO. M-3601		SHEET NO. 3 NO. OF SHYS 12	

THIS SHEET SHOWS TOPOGRAPHY THAT
APPLIES TO M-3600 SHTS. 6, 7 & 8.

BASED ON THESE AERIAL MAPS, THREE
TABLES EXIST THAT SHOW COORDINATES OF:

- (a) BUILDING CORNERS (AERIAL VIEW);
- (b) FENCE CORNERS; AND
- (c) POLES.

THESE TABLES COMPRISE CVI 30-400.

FOR KEY MAP, SEE H-3-32355 SHT. 1.

N53800

E13000

APPD. FOR CONFORMANCE WITH DESIGN CRITERIA	DATE
BY	
FOR	
Q. A. APPD	
APPD	
APPD <i>Daniel R. Webb</i>	<i>11-8-82</i>
ENGR	
DFTG APPD	
CHECKED	
DRAWN <i>J. C. Williamson</i>	<i>8/24/82</i>
SCALE <i>1" = 40'</i>	
CLASSIFICATION NONE	

U.S. Department of Energy

Hanford Engineering Development Laboratory
Westinghouse Hanford Company

300 AREA TOPOGRAPHY

5-14-82

BLDG. NO.	300G	INDEX NO.	0103
DWG NO.	M-3601	SHEET NO.	5
		NO. OF SHTS.	12

USE THIS SET OF AERIAL MAPS IN CONJUNCTION WITH
THE M-3600 SERIES MAPS. BOTH SETS ARE 1"=40'.

THIS SHEET SHOWS TOPOGRAPHY THAT APPLIES TO
M-3600 SHTS. 1, 2, 3, 6, 7 & 8.

BASED ON THESE AERIAL MAPS, THREE TABLES
EXIST THAT SHOW COORDINATES OF:

- (a) BUILDING CORNERS (AERIAL VIEW);
- (b) FENCE CORNERS; AND
- (c) POLES.

THESE TABLES COMPRISE CVI 30-400.

FOR KEY MAP, SEE H-3-32355 SHT. 1.

E13600

APPD. FOR CONFORMANCE WITH DESIGN CRITERIA		DATE	
BY			
FOR			
O. A. APPD			
APPD			
APPD <i>Daniel L. Webb</i>		11-8-82	
ENGR			
DFTG APPD			
CHECKED			
DRAWN J. C. WILLIAMSON		8/24/82	
SCALE 1"=40'		BLDG. NO. 300 G	
CLASSIFICATION		INDEX NO. 0103	
NONE		SHEET NO. 6	
		NO. OF SHTS 12	

U.S. Department of Energy
Hanford Engineering Development Laboratory
Westinghouse Hanford Company

300 AREA TOPOGRAPHY
5-14-82

M-3601

FOR KEY MAP, SEE H-3-32355 SHT.

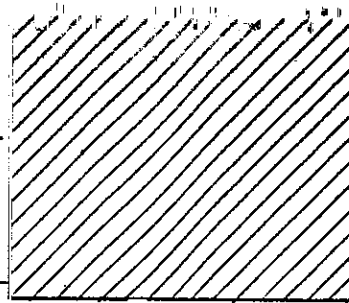
PLACEMENT CRITERIA	DATE
M	7-8-82
MASON	9/24/82
40'	
NE	

7-12

**THIS PAGE INTENTIONALLY
LEFT BLANK**

③

④



KEY PLAN

SCALE: NONE

4TH ISSUE 6-21-88

EDP# 88-090

APPD FOR CONFORMANCE WITH DESIGN CRITERIA	
BY	
FOR	
QA <i>V.W. Rall</i>	6/21/88
APPD <i>RM Gale</i>	6/22/88
ENGR <i>D. KOONTZ</i>	6/21/88
DFTG APPD <i>Condo</i>	6/22/88
CHECKED <i>B. Smith</i>	6-22-88
DRAWN <i>L.L. YOUNG</i>	5-17-88
SCALE	SHOWN

U. S. Department Of Energy
Richland Operations Office
PACIFIC NORTHWEST LABORATORY
OPERATED BY BATTELLE MEMORIAL INSTITUTE

HAZARDOUS WASTE HANDLING FACILITY MODIFICATIONS

REV BY DATE	DESCRIPTION	REV NO
-------------------	-------------	-----------

REVISIONS

DATE	CHECK PRT ISSUE NO	DATE	LAST REV
			0

CLASSIFIED BY	DATE
NOT REQD	
CLASSIFICATION	
NONE	

BLDG NO	305-B	INDEX NO	900,901,905
DWG NO	SK-3-28062	SHEET NO	1-2

DRAWING STATUS

4

3

2

1041303

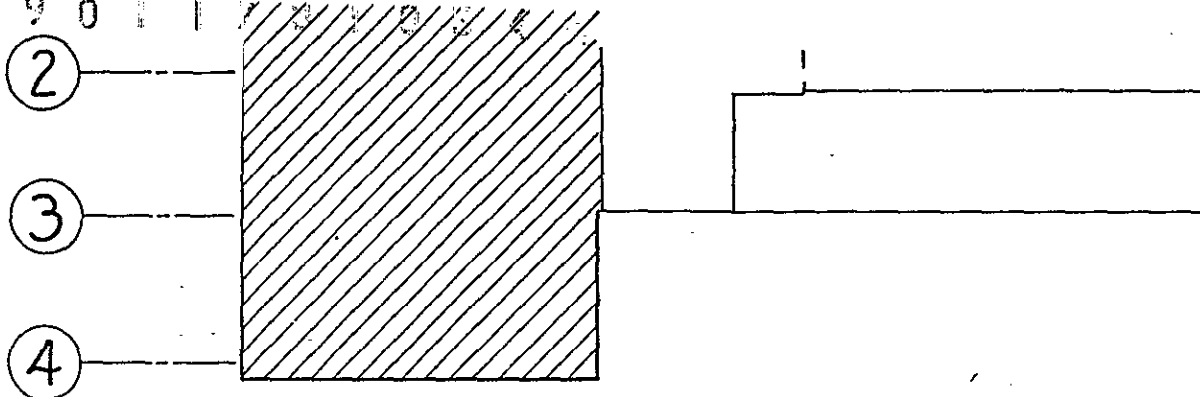
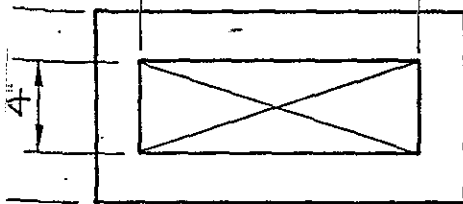
1

☆ GPO:1987-783-634

APPENDIX 4A
305-B DESIGN DRAWINGS

- Plate 4-1. Hazardous Waste Handling Facility Modifications, Drawing SK-3-20862, Rev. 0, Sheet 1 of 2
- Plate 4-2. Hazardous Waste Handling Facility Modifications, Drawing SK-3-20862, Rev. 0, Sheet 2 of 2
- Plate 4-3. Mechanical Hazardous Waste Facility Modifications, Drawing SK-3-20877, Rev. 0, Sheet 1 of 2
- Plate 4-4. Mechanical Hazardous Waste Facility Modifications, Drawing SK-3-20877, Rev. 0, Sheet 2 of 2

90117310341



KEY PLAN

SCALE: NONE

BE FABRICATED FROM 18 GA.
ALL WELDED CONSTRUCTION.

5TH ISSUE 8-24-88

JQP#-88-090

APPD FOR CONFORMANCE WITH DESIGN CRITERIA	
BY _____	
FOR _____	
QA <i>W. C. Clark</i>	8/29/88
APPD <i>ER York</i>	8/29/88
ENGR <i>D. BROWN</i>	8/15/88
DFTS APPD <i>York</i>	8/29/88
CHECKED <i>B. B. Smith</i>	8-25-88
DRAWN <i>LES YOUNG</i>	6-27-88
SCALE SHOWN	
CLASSIFIED BY NOT REQD	
DATE _____	
CLASSIFICATION NONE	

U. S. Department Of Energy Richland Operations Office	
PACIFIC NORTHWEST LABORATORY OPERATED BY BATTELLE MEMORIAL INSTITUTE	
MECHANICAL HAZARDOUS WASTE FACILITY MOD.	
BLDG NO 305-B	INDEX NO 8408, 8508, 8900
DWG NO SK-3-28077	SHEET NO 1
	NO. OF SHY. 2

REV BY DATE	DESCRIPTION	REV NO
REVISIONS		
DATE	CHECK PRT ISSUE NO	DATE
WING STATUS		LAST REV O

EDP# 88-090

4TH ISSUE 6-21-88

U. S. Department Of Energy
Richland Operations Office

PACIFIC NORTHWEST LABORATOR
OPERATED BY BATTELLE MEMORIAL INSTITUTE

HAZARDOUS WASTE
HANDLING FACILITY
MODIFICATIONS

APPD FOR CONFORMANCE
WITH DESIGN CRITERIA

BY _____
FOR _____

Q *[Signature]* 6/21/88

APPD *R.M. Gale* 6/22/88

ENGR *[Signature]* 6/21/88
D. KOONTZ

DFTS APPD *[Signature]* 6/22/88

CHECKED *B. B. Smith* 6-22-88

DRAWN L.L. YOUNG 5-18-88

SCALE SHOWN

CLASSIFIED BY
NOT REQD

CLASSIFICATION
NONE

BLDG NO 305-B

INDEX NO 901

DWS NO SK-3-28062

SHEET NO 2 NO OF 2

FOR	REV BY	DATE	DESCRIPTION	REV NO

REVISIONS			
DATE	CHECK PRT ISSUE NO	DATE	LAST REV
			0
DRAWING STATUS			

4	3	2	1
---	---	---	---

APPENDIX 6A

HANFORD FIRE DEPARTMENT EMERGENCY EQUIPMENT

This appendix contains a listing of emergency response equipment maintained by the Hanford Fire Department. This equipment is available to respond to emergencies at the 305-B Storage Facility (305-B) if additional equipment beyond that maintained at 305-B is required to respond to emergencies. This listing includes equipment contained in the Hanford Fire Department Hazardous Materials Response Vehicle and Hazardous Materials Response Trailer and emergency response resources maintained by the Hanford Fire Department.

NOTE: DIMENSIONS IDENTIFIED WITH *, ARE TO BE
FIELD DETERMINED.

3ER GROMMET TO FIT

ALLOMODATE PIPE.

R SHELL OF FUME HOOD.

TEEL PIPE

EL FUME HOOD.

4TH ISSUE 8-24-88

EDP# 88-090

APPD FOR CONFORMANCE WITH DESIGN CRITERIA			U. S. Department Of Energy Richland Operations Office	
			PACIFIC NORTHWEST LABORATORY OPERATED BY BATTELLE MEMORIAL INSTITUTE	
BY <u> </u>			MECHANICAL HAZARDOUS WASTE FACILITY MOD.	
FOR <u> </u>				
Q <u> </u>		8/29/88		
APPD <u> </u>		8/29/88		
ENGR <u> </u>		8/15/88		
DFTS APPD <u> </u>		8/29/88		
CHECKED <u> </u>		8-25-88		
DRAWN <u> </u>		7-28-88		
SCALE <u> </u>			BLDG NO 305-B	
CLASSIFIED BY <u> </u>			INDEX NO 8408, 8508, 8900	
NOT REQD <u> </u>			DWS NO	
CLASSIFICATION <u> </u>			SHEET NO No. of SH.	
NONE			SK-3-28077	
DRAWING STATUS			2 2	

APPENDIX 7A

EMERGENCY RESPONSE INFORMATION AND PROCEDURES

This appendix contains emergency response information and procedures to supplement the contingency plan contained in Chapter 7.0. Section 7-1 contains a list of emergency response personnel assigned to the 305-B facility, including the Building Emergency Director (BED) and alternate BEDs. This section also contains a listing of telephone numbers for emergency response. Section 7-2 contains PNL Waste Management and Environmental Compliance (WM&EC) Procedure R1-5, HAZMAT Spill/Release Reporting. This procedure contains spill response and notification requirements to be followed by all PNL staff in the event of hazardous material spills or releases.

APPENDIX 6A
HANFORD FIRE DEPARTMENT EMERGENCY EQUIPMENT

20117310343

This page intentionally left blank.

03
02
01
00
99
98
97
96
95
94
93
92
91
90
89
88
87
86
85
84
83
82
81
80
79
78
77
76
75
74
73
72
71
70
69
68
67
66
65
64
63
62
61
60
59
58
57
56
55
54
53
52
51
50
49
48
47
46
45
44
43
42
41
40
39
38
37
36
35
34
33
32
31
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
15
14
13
12
11
10
09
08
07
06
05
04
03
02
01
00

Hazardous Materials Response Trailer Equipment Inventory

2 Electrical Cord Reels
2 5 Gallon Buckets Plug N'Dike
4 Brook -- 2 large, 2 small
2 Proximity Suits
3 Ropes
3 Radiation Marking Robes
3 Tarps
Rubber Boots
Leather Gloves
3 Shovels
1 Roll Screen
2 Roll Masking Tape
10 Metal Buckets; 4 large and 6 small
2 Five gallon buckets Sodasorb
10 Rolls visqueen 6 mil 20' x 100'
2 Boxes 39" x 54" plastic bags
4 Boxes heavy weight rubber gloves
1 Box wooden blocks
2 Emergency reflectors
1 Saws-all
Miscellaneous tools (drills, pipe wrenches, hammer, etc.)
5 Portable lights
8 Miscellaneous electrical adapters
2 Pair electrical gloves
1 Drill -- 5/8"
3 Plug Rug
4 Bags Absorbent -- Safstep
1 Generator/Electric Start
1 Portable Decontamination Shower

Reference Materials

1 Haz Mat information
1 Manufacturers Safety Data Sheet
1 Haz Mat Spill Control Handbook
1 Emergency Action Guides
1 Selection of Haz Mat Clothing
1 Merck Index
1 Industrial Fire Haz Mat Handbook
1 Chemical Dictionary
1 Fire Protection on Haz Mat
1 Emergency Response
1 Haz Mat Handbook
1 Haz Mat Injuries Handbook
1 Common Sense Approach to Hazardous Materials Handbook

7-2. WM&EC PROCEDURE RI-5, HAZARDOUS MATERIAL SPILL/RELEASE REPORTINGHAZMAT Spill/Release Reporting
October 1988WM&EC Procedure RI-5
Page 1 of 4

The following is the process which will be used following the report of a hazardous material spill/release. This process initially assumes that the spill/release is not an immediate danger to life and health onsite or off-site. If you determine that the spill/release is an immediate threat, the Area Emergency Control Center and perhaps other emergency management groups (UDAC, EMC and RL-EACT) may be activated and conduct most of the data collection and reporting recommendations. These organizations will require the initial information collected under #1 (below) and may request an opinion on whether or not the spill/release is reportable (#5).

1. Contact the staff member who reported the spill/release and obtain the following information. (The report of the spill may come from the 375-2400 operator or the Occurrence Representative.) Use an internal spill report form if available.

- 1.1 Date and time of spill/release _____
- 1.2 Facility and location of spill/release _____
DOE or Private (circle one)
- 1.3 Identity of material spilled/released _____
- 1.4 Quantity of material spilled/released _____
- 1.5 Cause of the spill/release, if known _____
- 1.6 Estimate any impact to the environment _____

- | | | | |
|-------|-------------------------------|-----------|----------|
| 1.6.1 | Did it go down a drain? | _____ Yes | _____ No |
| 1.6.2 | Did it go into the air? | _____ Yes | _____ No |
| 1.6.3 | Did it go on the ground? | _____ Yes | _____ No |
| 1.6.4 | Did it go to a body of water? | _____ Yes | _____ No |

- 1.7 What initial corrective actions have been taken? _____
- 1.8 Who reported the spill/release? (name & phone number) _____
- 1.9 Others who should be contacted for information about the spill/release if different from above (1.8) _____
- 1.10 Suggested immediate follow-up actions _____

2. Determine whether or not this is a spill/release to the environment. If the answer to 1.6.1 through 1.6.4 is "yes," continue on through the process. If the answer to all of those questions is "no," contact the building manager and/or the Occurrence Representative to make the spill a "logbook entry." No further WM&EC notifications are necessary.

3. Determine the impact of the spill

- 3.1 Will it go offsite? _____ Yes _____ No
- 3.2 Has it been stopped? If not, determine if it can be & by whom? _____

APPENDIX 7A
EMERGENCY RESPONSE INFORMATION AND PROCEDURES

90117010350

HAZMAT Spill/Release Reporting
October 1988

WM&EC Procedure R1-5
Page 3 of 4

- 8.1 DOE-RL, Policy and Permits Branch
- | | | | | | |
|-------|---------------|------|----------|------|----------|
| 8.1.1 | Tony Knepp | Work | 376-1471 | Home | 735-2598 |
| 8.1.2 | Margo Anthony | Work | 376-8375 | Home | 946-6228 |
| 8.1.3 | Liz Bracken | Work | 376-7277 | Home | 627-2913 |
- 8.2 DOE-RL, ES&H Branch
- | | | | | | |
|-------|--------------|------|----------|------|----------|
| 8.2.1 | Gerry Bell | Work | 376-0680 | Home | 582-7986 |
| 8.2.2 | Paul Dunigan | Work | 376-6667 | Home | 943-0971 |
| 8.2.3 | Mike Tiernan | Work | 376-2044 | Home | 783-7810 |

NOTE: Any of the following notifications to the EPA, WDOE, and local authorities must be made by DOE-RL for DOE-owned and leased facilities. Battelle is responsible for these notifications for spills/releases from Battelle-private facilities.

9. Notifications and followup for CERCLA spills/releases from BNW facilities only!
- 9.1 The notification of a CERCLA spill is to the National Response Center (1-800-424-8802)
- 9.2 Remedial action for the spill/release is required. This can be conducted by the National Response Center or the owner/operator of the facility.
10. Notifications and follow-up for SARA spills/releases from BNW facilities only!
- 10.1 REMEMBER--These are not reportable if the spill/release results in exposure to persons solely within the boundaries of the facility.
- 10.2 IMMEDIATELY notify the community emergency coordinator of any local communities that could be affected by the release.
- 10.3 IMMEDIATELY notify the state emergency response commission of any state that could be affected by the release.
- 10.4 Provide the following information in the verbal notification:
- | | | |
|--------|--|-------------------------|
| 10.4.1 | Chemical name or identity of substance | _____ |
| 10.4.2 | Is it an <i>extremely hazardous substance</i> ? | ___ Yes ___ No |
| 10.4.3 | Estimate of quantity released | _____ |
| 10.4.4 | Time of release | _____ |
| 10.4.5 | Duration of Release | _____ |
| 10.4.6 | Medium/media into which the release occurred | _____ |
| 10.4.7 | Known/anticipated acute or chronic health risks and advice regarding medical attention for exposed individuals | _____

_____ |
| 10.4.8 | Proper precautions to take as a result of the release, including evacuation | _____
_____ |

APPENDIX 7A
CONTENTS

7-1.	305-B EMERGENCY RESPONSE PERSONNEL AND EMERGENCY TELEPHONE NUMBERS	APP 7A-1
7-2.	WM&EC PROCEDURE R1-5, <u>HAZARDOUS MATERIAL SPILL/RELEASE REPORTING</u>	APP 7A-2

90117610353

This page intentionally left blank.

2
5
3
0
1
6
7
1
0
6

7-1. 305-B EMERGENCY RESPONSE PERSONNEL AND EMERGENCY TELEPHONE NUMBERS

<u>Function</u>	<u>Name</u>	<u>Phone</u>	<u>Home Phone</u>
BED	GT Thornton	376-7688	375-4107
1st Alternate	MW McCoy	376-1483	783-0592
2nd Alternate	JC Dunn	376-0147	375-2400*
Building Manager	JC Dunn	376-0147	375-2400*
300 Area Emergency Director (AED)	JB Schuette	376-1583	375-2400*
	SJ Kostorowski	376-2288	375-2400*
	DE Knowlton	376-3525	375-2400*
	JD Bright	376-9157	375-2400*
Zone Wardens	GT Thornton	376-7688	375-4107
	HJ Cartmell	376-2779	783-4732

* Home phone numbers are available from the PNL single point of contact in emergency situations

Emergency List and Telephone Numbers

Ambulance:	811
Fire:	811
Patrol:	811
Radiation Protection:	376-2244
Off-Normal Event:	375-2400 or 375-2154

APPENDIX 8A

305-B JOB DESCRIPTIONS AND TRAINING REQUIREMENTS

This appendix contains a listing of job descriptions and the training required to fill those jobs at the 305-B facility. The job descriptions include routine and emergency functions, and also indicate skills required, education requirements, and other qualifications.

HAZMAT Spill/Release Reporting
October 1988

WM&EC Procedure R1-5
Page 2 of 4

- 3.3 Should the 200 Area HAZMAT team be called in to help? ☐ Yes ☐ No
- 3.4 Has the building manager been notified? ☐ Yes ☐ No
- 3.5 Does anyone require medical assistance? ☐ Yes ☐ No
4. Report the spill/release to 375-2400 if
- 4.1 It presents a danger to employees onsite and/or persons offsite, and/or
- 4.2 It is a release to the environment (see #2)
5. Based on the initial information provided, determine if the spill/release is a reportable quantity. This determination should be made immediately! A spill/release may be reportable in any or all of the following categories.
- 5.1 Check CERCLA (40 CFR 302 Table 302.4) for RQ values.
- 5.2 Check SARA (40 CFR 355 Appendix A) for TPQ values. All CERCLA RQ spills/releases are SARA reportable if there is offsite exposure to the material.
- 5.3 Check WAC 173-303-145 for reportable quantity. Report spills/releases of greater than 2.2 pounds of EHW and greater than 400 pounds of DW.
6. For spills/releases to the environment below all reportable quantities, notify the Occurrence Representative and document the spill/release via an internal spill report form to the manager, WM&EC and to the waste management specialist responsible for monthly spill reporting.
- NOTE: A spill/release below all reportable quantities must still be cleaned up immediately! Assist the line organization in spill cleanup plans.
7. For spills/releases to the environment above any of the reportable quantities, notify the manager, WM&EC, and the Occurrence Representative as soon as possible. Document the spill/release to the manager, WM&EC, via the internal spill report form. Special notifications will need to be made according to the spill/release reporting requirements of each regulation.
8. For all 1830 reportable spills/releases
- WM&EC will take responsibility for the following DOE-RL notifications. Do not make these notifications until the Facilities and Operations Director approves them. WM&EC will be notified by an Occurrence Representative when to make these notifications.

- assist other organizations (e.g., Fire Department and Patrol) with control of the emergency
- approve re-entry and/or rescue operations
- provide for treating, storing or disposing of recovered waste, contaminated soil or surface water.

This position reports to W. J. Bjorklund, manager, WM&EC section.

SKILLS REQUIRED: The staff member in this position must have the following skills:

- working knowledge of applicable regulations
- knowledge of basic chemistry and chemical hazards
- knowledge of IBM personal computers and dBase III+ software
- ability to make decisions under stress.

EDUCATION REQUIREMENTS: A bachelor's degree in science or environmental field required. College-level courses in chemistry desirable.

OTHER QUALIFICATIONS:

Current Hanford mask fit

Valid Washington State driver's license

Able to wear respiratory protection equipment

Able to lift 50 pounds

TRAINING REQUIREMENTS:

Waste Management and Environmental Compliance

Regulatory compliance - Annual: This training will help the staff member remain current in his knowledge of the regulatory requirements and in compliance activities. This requirement will be met by a short course in applicable regulatory compliance or by attendance at an annual topical society meeting which includes regulatory issues.

SAF-WM-001, PNL Hazardous and Mixed Waste Generator - Annual: This training covers internal PNL hazardous and mixed waste procedures and issues and regulatory requirements applicable to PNL operations.

HAZMAT Spill/Release Reporting
October 1988

WM&EC Procedure R1-5
Page 4 of 4

10.4.9 The names and phone numbers of persons to contact for further information _____

10.5 As soon as practicable (<10 days), provide a written followup with the following information:

10.5.1 Restate and/or update the verbal information provided

10.5.2 Actions taken to respond to and contain the release

10.5.3 Known/anticipated acute or chronic health affects associated with the release

10.5.4 Advice regarding medical attention necessary for exposed individuals

11. Notifications and followup to State of Washington Department of Ecology (WDOE) from BNW facilities only!

11.1 Provide the following information:

11.1.1 Name, address, & phone number of a contact

11.1.2 Identity of material

11.1.3 Location of spill/release

11.1.4 Cause of spill/release

11.1.5 Nature of spill/release

11.1.6 Owner/operator of facility

11.1.7 Injuries/damages

11.1.8 Initial corrective actions

11.1.9 Follow-up actions needed

11.2 Written followup will be required within 10 days. Generally the contents of the written follow-up will include a restatement and clarification of the initial information provided and any additional information requested by DOE-RL and/or WDOE.

12. The organization responsible for the spill/release is responsible for the cleanup of the spill/release and for written followup.

TRAINING REQUIREMENTS (Cont):

SAF-HM-020, Worker Right-to-Know - Initial: This course familiarizes the employee with their rights under the right-to-know statutes. Information on material safety data sheets and their availability and on standard industrial hygiene terms is also covered.

SAF-IS-008, Vehicle Accident Prevention - 2-hour initial and 30-minute annual refresher: This course is intended to familiarize employees with safe driving rules and with the requirements for operation of government-owned and Battelle-owned vehicles.

Self-contained Breathing Apparatus - Annual: The training prepares the SCBA user to properly don and use the device. The user is informed of the proper function of the apparatus and of possible malfunctions and how to respond to these malfunctions. The trainee must demonstrate to the instructor's satisfaction the ability to don and wear the apparatus, use the apparatus in a stressful environment and change air cylinders.

Fire Extinguisher Use - Biannual: This training will provide instruction on the various types of portable fire extinguishers and their use on different classes of fires. The training will include the hands-on use of at least one type of portable fire extinguisher.

APPENDIX 8A

305-B JOB DESCRIPTIONS AND TRAINING REQUIREMENTS

90117019360

- working knowledge of applicable regulations
- knowledge of basic chemistry and chemical hazards
- knowledge of radioactive materials and their hazards
- ability to make decisions under stress.

EDUCATION REQUIREMENTS: A bachelor's degree in science, engineering or environmental field required. College-level courses in chemistry or radiation physics desirable.

OTHER QUALIFICATIONS:

Current mask fit

Valid Washington State driver's license

Able to wear respiratory protection equipment

Able to lift 50 pounds

TRAINING REQUIREMENTS:

Waste Management and Environmental Compliance

SAF-WM-001, PNL Hazardous and Mixed Waste Generator - Annual: This training covers internal PNL hazardous and mixed waste procedures and issues and regulatory requirements applicable to PNL operations.

Waste Storage Facility Operations

Building Emergency Preparedness - Annual or when changes are made whichever is more frequent: This training shall make the employee familiar with the written building emergency procedures.

Hand-held Radio Operator - Initial: This briefing shall make the employee familiar with the operation of the hand-held and truck mounted radio. The briefing shall also include radio etiquette.

Waste Management Operating Procedures - Annual or whenever changes are made whichever is more frequent: This training will make the employee familiar with the existing operating procedures for the TSD facility. This requirement is fulfilled by reading and studying the written procedures.

Health and Safety

SAF-RS-002, General Radiation Safety - Biannual: This course gives staff members information on the basic characteristics of radiation, natural and man-made sources, biological effects and risks of radiation exposure, ALARA, contamination control, and warnings and alarms.

JOB TITLE: Facility Operating Supervisor

JOB DESCRIPTION:

Routine function: The staff member in this position is responsible for the daily operations of the 305-B Building in compliance with the Resource Conservation and Recovery Act (RCRA), the State of Washington Dangerous Waste Regulations (WAC 173-303) and PNL waste operating procedures. These responsibilities include, but are not limited to:

- preparing and reviewing operating procedures
- assessing facility compliance with new and revised regulations
- conducting routine inspections
- implementing corrective actions from inspections
- supervising the computer waste tracking and inventory system
- packaging, labeling, marking and otherwise preparing waste for shipment including manifest preparation
- sampling containers.

Emergency function: The staff member in this position serves as the Building Emergency Director (BED) in the event of an off-normal event or emergency. The responsibilities include, but are not limited to:

- declare an emergency when alerted to the situation by alarms, telephone, or other notification
- supervise, coordinate, and evaluate the combined efforts of the Building Emergency Organization (BEO)
- notify the Area Emergency Director (AED) to request assistance and/or recommend notification to outside agencies
- interpret all emergency data and transmit any necessary recommendations to the AED
- obtain and provide all necessary personnel, instrumentation, materials and equipment
- prepare and maintain an accurate and complete record of events, decision and actions to maintain continuity and provide review capabilities
- account for all building personnel

JOB TITLE: Waste Management Technician

JOB DESCRIPTION:

Routine function: The staff member(s) in this position assists in the operation of the 305-B waste storage facility. These responsibilities include, but are not limited to:

- packaging, labeling, marking and otherwise preparing waste (both hazardous and RMW) for shipment including manifest preparation
- sampling containers
- chemical and mixed waste pickup.

Emergency function: A staff member in this position serves as a zone warden for 305-B in the event of an off-normal event or an emergency. The responsibilities of a zone warden include but are not limited to:

- determine that all personnel have left their assigned zone or if aid and/or rescue is required
- aid those who need help in evacuating the building
- report the occupancy status of assigned zone to the building emergency director or the staging area supervisor as quickly as possible
- assist the BED in communicating emergency messages to the occupants of assigned zone
- act for the BED when both the BED and the alternate BEDs are absent.

This position reports to W. J. Bjorklund, manager, WM&EC section.

SKILLS REQUIRED: The staff member in this position must have the following skills:

- working knowledge of applicable regulations
- knowledge of basic chemistry and chemical hazards
- knowledge of basic radiation protection requirements and radiation hazards.

EDUCATION REQUIREMENTS: A high school diploma is required. College-level classes or short courses in chemistry are desirable.

OTHER QUALIFICATIONS:

Current mask fit

Valid Washington State driver's license

TRAINING REQUIREMENTS (Cont):

Waste Storage Facility Operations

Building Emergency Preparedness - Annual or when changes are made whichever is more frequent: This training shall make the employee familiar with the written building emergency procedures.

Hand-held Radio Operator - Initial: This briefing shall make the employee familiar with the operation of the hand-held and truck mounted radio. The briefing shall also include radio etiquette.

Waste Management Operating Procedures - Annual or whenever changes are made whichever is more frequent: This requirement is fulfilled by reading and studying the written procedures.

WHC Course 006S, Hazardous Waste Shipment Certification - Initial: This course provides training to those who supervise and prepare hazardous waste shipments and who certify that these shipments have been properly prepared in compliance with applicable laws and regulations. This training ensures that these persons understand their responsibilities and liabilities in the shipment of hazardous waste and that they have a basic understanding of which regulations are applicable and how they must achieve compliance.

SAF-WM-009, Hazardous Waste Operations Supervisor - Annual: This 8-hour course supplements SAF-WM-005, TSD Operator Safety. The topics covered are health and safety programs, associated employee training program, personal protective equipment, spill containment, and health hazard monitoring techniques.

Health and Safety

SAF-RS-002, General Radiation Safety - Biannual: This course gives staff members information on the basic characteristics of radiation, natural and man-made sources, biological effects and risks of radiation exposure, ALARA, contamination control, and warnings and alarms.

SAF-RS-100, NCRP Report 39 - Initial: Required for female radiation workers only! The briefing informs the female radiation worker of the potential hazards of radiation to females of reproductive age.

SAF-RP-001, Respiratory Protection - Annual: This course will help staff members to recognize potential respiratory hazards. It will also familiarize the staff member with the use of air purifying respirators and their limitations.

SAF-WM-005, TSD Operator Safety - At least 24-hour initial and 8-hour annual refresher: This training is designed to enable each employee to perform their assigned duties in a safe and healthful manner so as to not endanger themselves or other employees. The primary emphasis is on personal protective equipment and hazard evaluation. This training meets the requirements of 29 CFR 1910.120 (o)(5). This training requirement can be met with the 40-hour OSHA, waste site worker training and refresher.

TRAINING REQUIREMENTS (Cont):

SAF-RS-100, NCRP Report 39 - Initial: For female radiation workers only! The briefing informs the female radiation worker of the potential hazards of radiation to females of reproductive age.

SAF-RP-001, Respiratory Protection - Annual: This course will help staff members to recognize potential respiratory hazards. It will also familiarize the staff member with the use of air purifying respirators and their limitations.

SAF-MM-005, TSD Operator Safety - At least 24-hour initial and 8-hour annual refresher: This training is designed to enable each employee to perform their assigned duties in a safe and healthful manner so as to not endanger themselves or other employees. The primary emphasis is on personal protective equipment and hazard evaluation. This training meets the requirements of 29 CFR 1910.120 (o)(5). This training requirement can be met with the 40-hour OSHA, waste site worker training and refresher.

SAF-HM-020, Worker Right-to-Know - Initial: This course familiarizes the employee with their rights under the right-to-know statutes. Information on material safety data sheets and their availability and on standard industrial hygiene terms is also covered.

SAF-IS-008, Vehicle Accident Prevention - 2-hour initial and 30-minute annual refresher: This course is intended to familiarize employees with safe driving rules and with the requirements for operation of government-owned and Battelle-owned vehicles.

Self-contained Breathing Apparatus - Annual: The training prepares the SCBA user to properly don and use the device. The user is informed of the proper function of the apparatus and of possible malfunctions and how to respond to these malfunctions. The trainee must demonstrate to the instructor's satisfaction the ability to don and wear the apparatus, use the apparatus in a stressful environment and change air cylinders.

Fire Extinguisher Use - Biannual: This training will provide instruction on the various types of portable fire extinguishers and their use on different classes of fires. The training will include the hands-on use of at least one type of portable fire extinguisher.

JOB TITLE: Waste Management Engineer

JOB DESCRIPTION:

Routine function: The staff member in this position is responsible for the mixed waste operation of the 305-B waste storage facility. These responsibilities include, but are not limited to:

- reviewing mixed waste disposal requests
- overseeing mixed waste pickup
- overseeing the packaging, labeling, marking and other preparation of mixed waste for shipment including manifest preparation.

Emergency function: The staff member in this position serves as the alternate BED for 305-B. In the absence of the BED, the alternates responsibilities shall include, but not be limited to:

- declare an emergency when alerted to the situation by alarms, telephone, or other notification
- supervise, coordinate, and evaluate the combined efforts of the BEO
- notify the AED to request assistance and/or recommend notification to outside agencies
- interpret all emergency data and transmit any necessary recommendations to the AED
- obtain and provide all necessary personnel, instrumentation, materials and equipment
- prepare and maintain an accurate and complete record of events, decision and actions to maintain continuity and provide review capabilities
- account for all building personnel
- assist other organizations (e.g., Fire Department and Patrol) with control of the emergency
- approve re-entry and/or rescue operations
- provide for treating, storing or disposing of recovered waste, contaminated soil or surface water.

This position reports to W. J. Bjorklund, manager, WM&EC section.

SKILLS REQUIRED: The staff member in this position must have the following skills:

Able to wear respiratory protection equipment

TRAINING REQUIREMENTS:

Waste Management and Environmental Compliance

SAF-WM-001, PNL Hazardous and Mixed Waste Generator - Annual: This training covers internal PNL hazardous and mixed waste procedures and issues and regulatory requirements applicable to PNL operations.

Waste Storage Facility Operations

Building Emergency Preparedness - Annual or when changes are made whichever is more frequent: This training shall make the employee familiar with the written building emergency procedures.

Hand-held Radio Operator - Initial: This briefing shall make the employee familiar with the operation of the hand-held and truck mounted radio. The briefing shall also include radio etiquette.

Waste Management Operating Procedures - Annual or whenever changes are made whichever is more frequent: This requirements is fulfilled by reading and studying the written procedures.

WHC Course 006S, Hazardous Waste Shipment Certification - Initial: This course provides training to those who supervise and prepare hazardous waste shipments and who certify that these shipments have been properly prepared in compliance with applicable laws and regulations. This training assures that these persons understand their responsibilities and liabilities in the shipment of hazardous waste and that they have a basic understanding of which regulations are applicable and how they must achieve compliance.

Health and Safety

SAF-RS-002, General Radiation Safety - Biannual: This course gives staff members information on the basic characteristics of radiation, natural and man-made sources, biological effects and risks of radiation exposure, ALARA, contamination control, and warnings and alarms.

SAF-RS-100, NCRP Report 39 - Initial: For female radiation workers only! The briefing informs the female radiation worker of the potential hazards of radiation to females of reproductive age.

SAF-RP-001, Respiratory Protection - Annual: This course will help staff members to recognize potential respiratory hazards. It will also familiarize the staff member with the use of air purifying respirators and their limitations.

SAF-RS-100, NCRP Report 39 - Initial: Required for female radiation workers only! The briefing informs the female radiation worker of the potential hazards of radiation to females of reproductive age.

SAF-RP-001, Respiratory Protection - Annual: This course will help staff members to recognize potential respiratory hazards. It will also familiarize the staff member with the use of air purifying respirators and their limitations.

SAF-WM-005, TSD operator safety - At least 24-hour initial and 8-hour annual refresher: This training is designed to enable each employee to perform their assigned duties in a safe and healthful manner so as to not endanger themselves or other employees. The primary emphasis is personal protective equipment and hazard evaluation. This training meets the requirements of 29 CFR 1910.120 (o)(5). This training requirement can be met with the 40-hour OSHA, waste site worker training and refresher.

SAF-HM-020, Worker Right-to-Know - Initial: This course familiarizes the employee with their rights under the right-to-know statutes. Information on material safety data sheets and their availability and on standard industrial hygiene terms is also covered.

SAF-IS-008, Vehicle Accident Prevention - 2-hour initial and 30-minute annual refresher: This course is intended to familiarize employees with safe driving rules and with the requirements for operation of government-owned and Battelle-owned vehicles.

Self-contained Breathing Apparatus - Annual: The training prepares the SCBA user to properly don and use the device. The user is informed of the proper function of the apparatus and of possible malfunctions and how to respond to these malfunctions. The trainee must demonstrate to the instructor's satisfaction the ability to don and wear the apparatus, use the apparatus in a stressful environment and change air cylinders.

Fire Extinguisher Use - Biannual: This training will provide instruction of the various types of portable fire extinguishers and their use on different classes of fires. The training will include the hands-on use of at least one type of portable fire extinguisher.

This page intentionally left blank.

Able to wear respiratory protection equipment

Able to lift 50 pounds

TRAINING REQUIREMENTS:

Waste Management and Environmental Compliance

SAF-WM-001, PNL Hazardous and Mixed Waste Generator - Annual: This training covers internal PNL hazardous and mixed waste procedures and issues and regulatory requirements applicable to PNL operations.

Waste Storage Facility Operations

Building Emergency Preparedness - Annual or when changes are made whichever is more frequent: This training shall make the employee familiar with the written building emergency procedures.

Hand-held Radio Operator - Initial: This briefing shall make the employee familiar with the operation of the hand-held and truck mounted radio. The briefing shall also include radio etiquette.

Waste Management Operating Procedures - Annual or whenever changes are made whichever is more frequent: This requirements is fulfilled by reading and studying the written procedures.

MHC Course 006S, Hazardous Waste Shipment Certification - Initial: This course provides training to those who supervise and prepare hazardous waste shipments and who certify that these shipments have been properly prepared in compliance with applicable laws and regulations. This training assures that these persons understand their responsibilities and liabilities in the shipment of hazardous waste and that they have a basic understanding of which regulations are applicable and how they must achieve compliance.

SAF-RS-010, Radioactive Materials Shipping Representative - Biannual: This course provides training in the onsite radioactive materials shipping procedures and requirements. Successful completion of this course is required to receive authorization to sign for onsite radioactive shipments (Onsite RSRs).

CS-CR-001, Crane Hoist and Rigging Safety - Triennial: This course provides instruction in the safe operation of cranes and in proper rigging techniques.

CS-FL-001, Safe Forklift Operation - Triennial: This course provides instruction in the safe operation of forklifts.

Health and Safety

SAF-RS-002, General Radiation Safety - Biannual: This course gives staff members information on the basic characteristics of radiation, natural and man-made sources, biological effects and risks of radiation exposure, ALARA, contamination control, and warnings and alarms.

TRAINING REQUIREMENTS (Cont):

SAF-WM-005, TSD Operator Safety - At least 24-hour initial and 8-hour annual refresher: This training is designed to enable each employee to perform their assigned duties in a safe and healthful manner so as to not endanger themselves or other employees. The primary emphasis is on personal protective equipment and hazard evaluation. This training meets the requirements of 29 CFR 1910.120 (o)(5). This training requirement can be met with the 40-hour OSHA, waste site worker training and refresher.

SAF-HM-020, Worker Right-to-Know - Initial: This course familiarizes the employee with their rights under the right-to-know statutes. Information on material safety data sheets and their availability and on standard industrial hygiene terms is also covered.

SAF-IS-008, Vehicle Accident Prevention - 2-hour initial and 30-minute annual refresher: This course is intended to familiarize employees with safe driving rules and with the requirements for operation of government-owned and Battelle-owned vehicles.

Self-contained Breathing Apparatus - Annual: The training prepares the SCBA user to properly don and use the device. The user is informed of the proper function of the apparatus and of possible malfunctions and how to respond to these malfunctions. The trainee must demonstrate to the instructor's satisfaction the ability to don and wear the apparatus, use the apparatus in a stressful environment and change air cylinders.

Fire Extinguisher Use - Biannual: This training will provide instruction on the various types of portable fire extinguishers and their use on different classes of fires. The training will include the hands-on use of at least one type of portable fire extinguisher.

JOB TITLE: Waste Management Clerk

JOB DESCRIPTION:

Routine function: The staff member(s) in this position assists in the operation of the 305-B waste storage facility. These responsibilities include, but are not limited to:

- labeling, marking and otherwise preparing waste (both hazardous and RMW) for shipment including manifest preparation
- date entry
- chemical waste pickup assistance to technician or specialist
- general building support, including ordering of supplies and housekeeping.

Emergency function: A staff member in this position serves as a zone warden for 305-B in the event of an off-normal event or an emergency. The responsibilities of a zone warden include but are not limited to:

- determine that all personnel have left their assigned zone or if aid and/or rescue is required
- aid those who need help in evacuating the building
- report the occupancy status of assigned zone to the building emergency director or the staging area supervisor as quickly as possible
- assist the BED in communicating emergency messages to the occupants of assigned zone.

This position reports to W. J. Bjorklund, manager, WM&EC section.

SKILLS REQUIRED: The staff member in this position must have the following skills:

- working knowledge of applicable regulations
- knowledge of basic chemistry and chemical hazards
- knowledge of basic radiation protection requirements and radiation hazards.

EDUCATION REQUIREMENTS: A high school diploma is required. College-level classes or short courses in chemistry are desirable.

OTHER QUALIFICATIONS:

Current mask fit

Valid Washington State driver's license